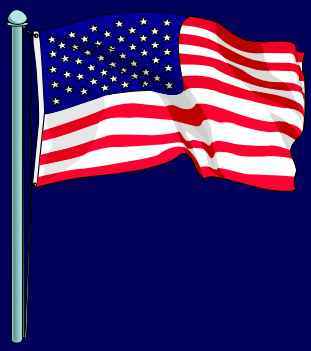


Inspectors Guide

Emergency Management Program Evaluation

November 2005

SSA
Office of Security and Safety Performance Assurance

Office of Emergency Management Oversight
Office of Independent Oversight
Office of Security and Safety Performance Assurance
Office of the Secretary of Energy

Office of Emergency Management Oversight (SP-43)

Emergency Management Program Evaluation Inspectors Guide SP-43

November 2005

Preface

As part of an effort to enhance the appraisal process, the Office of Independent Oversight (SP-40) and the Office of Emergency Management Oversight (SP-43) have prepared a series of documents that collectively provide comprehensive guidance and tools for the evaluation of emergency management programs across the U.S. Department of Energy/National Nuclear Security Administration (DOE/NNSA) complex. The Independent Oversight Appraisal Process Protocols describe the philosophy, scope, and general procedures applicable to all independent oversight appraisal activities. The Emergency Management Oversight Appraisal Process Protocols describes specific procedures used by SP-43 in planning, conducting, and following up emergency management inspections. This Emergency Management Program Evaluation Inspectors Guide provides detailed information and tools to assist inspectors assigned to evaluate the capabilities and performance of emergency management programs in DOE/NNSA. Although this inspectors guide is designed specifically for the SP-43 inspector, it is made available to the field through the SP-43 homepage and may be useful to field element and facility contractor personnel who conduct surveys or self-assessments of emergency management programs. SP-43 anticipates making periodic revisions to this guide in response to changes in DOE/NNSA program direction and guidance, insights gained from independent oversight activities, and feedback from DOE Headquarters, field offices, and sites, as well as external stakeholders. Therefore, users of this process guide are invited to submit comments and recommendations to SP-43.

This page is intentionally left blank.

Contents

This page is intentionally left blank.

Acronyms

CAP	Corrective Action Plan
DOE	U.S. Department of Energy
DSA	Documented Safety Analysis
EAL	Emergency Action Level
EARM	Emergency Assessment Resource Manual
EMG	Emergency Management Guide
EOC	Emergency Operations Center
EPA	Environmental Protection Agency
EPI	Emergency Public Information
EPZ	Emergency Planning Zone
ERAP	Emergency Readiness Assurance Plan
ERO	Emergency Response Organization
ISM	Integrated Safety Management
JIC	Joint Information Center
LEPC	Local Emergency Planning Committee
NARAC	National Atmospheric Release Advisory Center
NNSA	National Nuclear Security Administration
SP-40	Office of Independent Oversight
SP-43	Office of Emergency Management Oversight
OSHA	Occupational Safety and Health Administration
PRA	Probabilistic Risk Assessment
SAR	Safety Analysis Report
SERC	State Emergency Response Committee
SSA	Office of Security and Safety Performance Assurance

This page is intentionally left blank.

Section 1

INTRODUCTION

Contents

Purpose

As part of an effort to enhance the appraisal process, the Office of Independent Oversight (SP-40) and the Office of Emergency Management Oversight (SP-43) have prepared a series of documents that collectively provide comprehensive guidance and tools for the evaluation of emergency management programs across the U.S. Department of Energy/National Nuclear Security Administration (DOE/NNSA) complex. The Independent Oversight Appraisal Process Protocols document describes the philosophy, scope, and general procedures applicable to all independent oversight appraisal activities. The SP-43 Emergency Management Oversight Appraisal Process Guide describes specific procedures used by SP-43 in planning, conducting, and following up emergency management inspections. The information in the appraisal process guides is not repeated here and therefore should be referred to when planning and conducting emergency management program inspections. In particular, the SP-43 Appraisal Process Guide provides information regarding inspectors' responsibilities and an overview of inspection activities.

This Emergency Management Program Evaluation Inspectors Guide provides a set of detailed tools and references that inspectors can use to plan, conduct, and close out an inspection of the emergency management program. These tools serve to promote consistency, assure thoroughness, and enhance the quality of the inspection process.

Organization of Guide

The introductory section (Section 1) of this guide provides an overview of inspection goals/areas of emphasis and describes SP-43's application of integrated safety management (ISM) concepts.

Section 2 (Program Elements) provides detailed guidance for inspecting emergency management program elements and includes descriptions of various types of data collection activities, the identification of common deficiencies identified in the past, and the impact that a deficiency in one program element may have on other program elements.

Section 3 (Analyzing Data and Interpreting Results) contains guidelines on how to analyze information gathered during data collection activities, interpret the significance of potential deficiencies, and identify findings.

Appendix A provides references.

Overview

The tools contained in this guide are intended to be used at the discretion of the inspector. Typically, inspectors select the tools that are applicable and most useful on a facility-specific and inspection-specific basis. Although the guidelines presented here cover a variety of inspection activities, they do not and cannot address all emergency management program variations at all DOE/NNSA facilities. The tools may have to be modified or adapted to meet inspection-specific needs, and in some instances inspectors may have to design new activities and new tools to collect information not specifically covered in this guide.

The information in this guide does not repeat all of the detailed information in DOE orders. Rather, it is intended to complement the orders by providing practical guidance for planning, collecting, and analyzing inspection data. Inspectors should refer to this guide as well as DOE orders and other guidance at all stages of the inspection process.

One objective in developing SP-43 inspector guides is to provide a repository for the collective knowledge of SP-43's most experienced inspectors that can be enhanced and updated as inspection methods improve and inspection experience accumulates. Every attempt has been made to develop specific guidelines that are as useful as possible. In addition to guidelines for collecting information, the inspection tools provide aids for prioritizing and selecting activities, then analyzing and interpreting results. The specific guidelines should be viewed as suggestions rather than requirements, and they must be critically examined and interpreted on an inspection-specific basis, taking into account site-specific factors.

Inspection Goals

The primary inspection goal is to determine, with reasonable certainty, whether the emergency management program is both adequately meeting the appropriate standards established by DOE policy and is capable of providing appropriate protection to site personnel and the public in case of an accident at the site.

In order to do this, it is necessary to determine whether the emergency management program is adequately managed, staffed, trained, equipped, and capable of performing all mission-related tasks and duties.

Compliance/Performance

While an emergency management program inspection includes both compliance and performance activities, a greater emphasis is placed on the performance aspect, as it is more useful in determining whether the emergency response organization (ERO) can perform its mission. Many of the DOE emergency management requirements contained in DOE Order 151.1(x) are stated in performance terms: that is, they state a capability, duty, or integrated response that must be performed. Therefore, compliance requires effective performance. Even when dealing with policy requirements for which a compliance approach may seem appropriate (e.g., Does the training program contain the required elements?), the SP-43 approach for this topic is to go beyond compliance and determine the performance aspects of these requirements (e.g., Does the training program adequately prepare the emergency director to perform his/her mission?). Therefore, whenever possible, data-collecting activities for the emergency management program should be performance-oriented.

Planning Goals

The ultimate goal of planning is to anticipate and provide for every action necessary to conduct the highest quality inspection possible with the resources available. That is an extremely broad goal, and it provides little structure for actual planning. However, it is useful to focus the planning process on several narrower, yet major, goals. Examples of such goals might include:

- Understanding the character of the ERO, including its size, composition, and mission; having a general familiarity with how it is trained, managed, and equipped; and understanding the environment in which it operates

- Understanding the facility/site mission and major hazards

- Determining the topics to be inspected and the specific areas of focus for inspection activities

- Determining the specific data collection methods to be used, including any performance tests to be conducted

- Identifying and arranging for the provision of all personnel, administrative, safety, and logistical requirements necessary for data collection

- Producing necessary planning documents.

Planning Decisions

Based on analysis of the information gained from a scoping visit, site document review, discussion with other inspection team members, and discussion with the site points of contact, the inspection team leader must make a number of decisions, including:

- Scope and emphasis of inspection activities (including final selection of topics)

- Data collection methods to be employed, including performance tests

- Logistics, administrative, and personnel support required, and its sources

- Team members and their data collection activities

- A tentative schedule for data collection activities.

Once these decisions have been made, individual inspection plans can be developed, and the detailed planning of data collection activities can proceed.

Application of Integrated Safety Management Concepts

DOE/NNSA uses an ISM approach to systematically integrate safety into management and work practices at all levels so that missions are accomplished while protecting the public, the workers, and the environment. As part of the ISM approach, DOE has delineated guiding principles and core functions of safety management that establish the framework for ISM (reference DOE Policy 450.4). The seven guiding principles of ISM are:

- Line management responsibility for safety
- Clear roles and responsibilities
- Competence commensurate with responsibilities
- Balanced priorities
- Identification of standards and requirements
- Hazard controls tailored to work being performed
- Operations authorization.

The five core functions of ISM are:

- Define the scope of work
- Analyze the hazards
- Develop and implement controls
- Perform work within controls
- Provide feedback and improvement.

SP-43 considers the guiding principles and core functions when evaluating the impact of deficiencies in emergency management programs. The common deficiencies/potential concerns listed for each of the emergency management program elements (see Sections 2A through 2I) are grouped by ISM guiding principle or core function.

This page is intentionally left blank.

Section 2

PROGRAM ELEMENTS

Contents

Introduction

As indicated in Section 1, detailed guidance for inspecting key emergency management program elements is provided in this section and is organized by associated elements:

- Section 2A – Hazards Surveys and Emergency Planning Hazards Assessments
- Section 2B – Categorization and Classification
- Section 2C – Protective Actions and Re-entry
- Section 2D – Consequence Assessment
- Section 2E – Notifications and Communications
- Section 2F – Emergency Response Organization
- Section 2G – Training, Drills, and Exercises
- Section 2H – Emergency Public Information (EPI)
- Section 2I - Readiness Assurance

Program Element Inspection Tools

Program element sections provide topic-specific information intended to help inspectors collect and analyze inspection data. Each section is further divided into the following standard subsections:

- General Information
- Relevant Site Documents
- Common Deficiencies/Potential Concerns
- Data Collection Activities
- Data Analysis and Ratings
- Potential Impacts on Other Program Elements.

General Information

This section defines the scope of the topic. It includes background information, guidelines, and commonly used terms intended to help inspectors focus on the unique features and problems associated with the topic.

Relevant Site Documents

This section provides a list of site documents that the inspector may choose to review before or during the performance of onsite data collection.

Common Deficiencies/ Potential Concerns

This section addresses potential concerns or deficiencies that SP-43 has noted on previous inspections. By reviewing the list of common deficiencies and potential concerns before gathering data, inspectors can be aware of these deficiencies and concerns during interviews, walkdowns, and other data gathering activities. However, the inspector is expected to evaluate all aspects of the emergency management program element and should not simply focus his/her evaluation on whether these deficiencies exist at the site being evaluated.

Data Collection Activities

This section identifies activities that inspectors may choose to perform during data collection. The information is intended to be reasonably comprehensive, although it is recognized that it will not address every conceivable variation. Activities include document reviews, facility walkdowns, interviews, observations, and performance tests. Inspectors do not normally perform every activity on every inspection. Most often, activities and performance tests are selected during the planning effort. The activities listed in this section include those most often conducted and reflect SP-43 experience and expertise regarding those activities that are most productive in collecting data.

Data Analysis and Ratings

This section provides guidance on analyzing data and assigning a rating for the program area evaluated. For calendar year 2006, SP-43 inspectors will need to be cognizant of changes in programmatic requirements resulting from the November 2, 2005, issuance of DOE Order 151.1C, and site plans for its implementation.

Potential Impacts on Other Program Elements

This section provides guidance on the potential impact that deficiencies in one program area may have on other program areas.

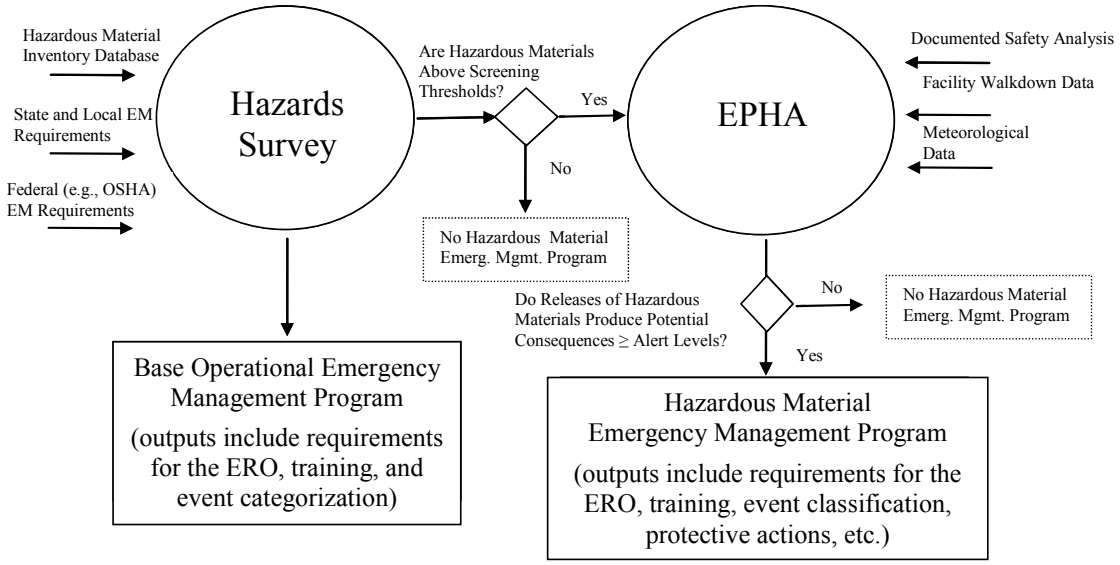
Section 2A

HAZARDS SURVEYS AND EMERGENCY PLANNING HAZARDS ASSESSMENTS

Contents

General Information

Hazards surveys and emergency planning hazards assessments (EPHAs) form the basis for a site/facility's emergency management program. The hazards survey serves to establish the "Base operational emergency Management Program." The hazards survey is intended to identify emergency management program needs that are different from those addressed by the EPHA. Therefore, each facility/site should be included in a hazards survey, regardless of the need for an EPHA. The hazards survey includes State, local, and Federal agency requirements related to facility and occupational safety, environmental and effluent controls, and hazardous materials management. It also includes a listing of all hazardous materials and a qualitative evaluation, through a screening process, of whether the hazardous materials will need to be considered in an EPHA. If hazardous materials meet or exceed specified screening threshold criteria, then a quantitative EPHA is performed to determine whether a hazardous material emergency management program is needed. Such a program is needed if the EPHA indicates that release of hazardous materials may result in a classifiable emergency. Note that the integrated emergency management program will include both an operational base and a hazardous material emergency management program (if needed). The figure below illustrates this concept.



The scope of this inspectors guide is limited to the review of the site/facility's hazards survey and EPHAs. It is not intended to provide guidance on review of the safety analysis report (SAR) or documented safety analysis (DSA). Included in the scope is an evaluation of the site/facility's determination of size of the emergency planning zone (EPZ), and identification of indications of barrier failures that may be used to develop emergency action levels (EALs).

Because the hazards survey and EPHA(s) form the basis for developing the emergency response program, deficiencies in the hazards survey and EPHAs can lead to deficiencies in other emergency management program elements. The Potential Impacts on Other Program Elements section of this chapter provides a description of these potential impacts.

Relevant Site Documents

The following is a list of site documents that the inspector may choose to review before or during the performance of onsite data collection.

- **Procedure for preparing and approving hazards surveys and EPHAs –** describes the mechanism used to ensure that the preparation, review, and approval of the documents are consistent with DOE orders and applicable guidance (note: sites are not required to prepare a procedure, however, some documentation of the process utilized should be available.).

- **Authorization basis documents for facilities of interest (DSA, SAR, facility hazards analysis [FHA], basis for interim operation, technical safety requirement) –** typically are used as the reference starting point for postulating potential accidents analyzed in the EPHA.

- **Transportation DSA/SAR**

- **Vulnerability analysis for facilities of interest (note: may be classified) –** provides information that may be used to quantify malevolent act scenarios analyzed in the EPHA.

- **Chemical, biological, and radiological inventories, documents, or databases –** provide data on the basis for determining quantities of hazardous materials on the site and their location, and for initiating the process of performing the hazards survey. Note: Most sites use computer-based inventory systems.

- **Emergency plan –** should include a basic description of the hazards survey and assessment process.

- **Facility fire plan –** provides information on location of hazardous materials within the facility and facility fire suppression systems that may be used to quantify fire scenarios analyzed in the EPHA.

- **Map of all site facilities –** provides the location of all facilities that should be covered by the hazards survey and the relative location of the facilities to the site boundary and public access points.

Common Deficiencies/Potential Concerns

This section identifies areas where concerns or deficiencies have been identified in previous inspections. These are grouped by the ISM guiding principles or core functions that are most applicable. By reviewing this information before gathering data, inspectors can be aware of these deficiencies and concerns during interviews, walkdowns, and other data gathering activities. However, the inspector should not simply focus his/her evaluation on whether these deficiencies exist at the site being evaluated, but rather should consider all aspects of this emergency management program element (including strengths and weaknesses).

Line Management Responsibility for Safety/Clear Roles and Responsibilities

The following are examples of areas SP-43 has identified where DOE/NNSA and contractor management should have provided more direction or support to the site in its emergency management program development.

- Establishing mechanisms for preparing, reviewing, and approving hazards surveys and EPHAs.
- Defining the role of facility personnel in the hazards survey and EPHA development and maintenance process.
- Establishing a hazardous material screening process that appropriately considers the types and quantities of materials present, that if released, have the potential of causing a classifiable emergency.
- Establishing mechanisms for updating hazards surveys and EPHAs prior to introducing new hazardous materials or activities, or when changes to hazardous material inventories occur.
- Integrating the Office of Secure Transportation EPHA, where applicable, into the site's emergency management program.
- Integrating the site's emergency management program with other programs, such as the unreviewed safety question program.
- Ensuring that impacts of wildland fires are considered in the EPHAs and that contaminated land areas are identified and assessed, where applicable.
- Reviewing EPHAs as the basis document for the EPZ determination.
- Reviewing and approving the EPZ (by the local DOE/NNSA operations office manager).
- Ensuring that concurrence is obtained with offsite jurisdictions on the EPZ configuration.

Competence Commensurate with Responsibilities

The results of the EPHA are translated into procedures and operator aids that will be used during an emergency response. SP-43 has found that some sites' emergency planning staff were not proficient at developing EPHAs or at interpreting and applying EPHA results to other elements of the emergency management program. Proficiency problems identified include:

- Applying threshold planning criteria in screening hazardous materials.
- Using up-to-date Acute Exposure Guideline Level-2 (AEGL-2), Emergency Response Planning Guideline-2 (ERPG-2), or Temporary Emergency Exposure Limit-2 (TEEL-2) values.
- Justifying the screening of hazardous materials from a quantitative analysis.
- Including all hazards, such as uranium toxicity, and hazardous materials generated at the site.
- Analyzing the full spectrum of potential emergency scenarios, including: malevolent act and transportation event scenarios; low-probability/high-consequence (i.e., beyond design basis) accident events as well as high-probability/low-consequence events for situations where a time-urgent response is required.

- Using correct material-at-risk amounts in consequence assessment calculations, consistent with transport, storage, and operational practices.

- Determining facility and site boundaries correctly.

- Evaluating offsite hazardous operations that could impact the site, including fixed facilities and transportation activities.

- Using results of hazards survey and EPHAs as the basis for categorization/ classification methodology (e.g., using indications of potential barrier failures to develop EALs).

- Documenting the hazards survey in a format useable by site emergency responders (tabular listing of facilities and their hazards, number of persons in facility, etc.) and making it available in emergency response facilities as a reference for enhancing response efforts.

- Maintaining controlled copies of EPHAs at the emergency response facilities.

- Using results of hazards surveys and EPHAs as the basis for medical response.

- Using the EPHA results to determine EPZ configuration.

- Applying "tests of reasonableness" to the EPZ configuration.

In addition, SP-43 inspections have found that some DOE/NNSA field offices do not have individuals with sufficient emergency management expertise to effectively evaluate and approve the contractor-developed program documents.

Identification of Safety Standards and Requirements

Site hazards must be routinely reassessed to ensure that changes in hazardous material inventories and event initiators are factored into the emergency management program. SP-43 has identified concerns in this area, including deficiencies in:

- Establishing mechanisms for notifying the organization responsible for EPHAs of changes in hazardous material inventories and facility operations.

- Confirming accurate inventory information with such methods as facility walkdowns.

- Preparing hazards surveys and EPHAs for such activities as transportation.

- Following order requirements and/or site procedures when developing hazards surveys and EPHAs.

- Establishing the hierarchy of protective action criteria to be used in developing consequence assessments.

- Identifying the preferred dispersion model program to use in developing EPHAs, and conducting a timely initial assessment and ongoing consequence assessments.

- Identifying and assessing consequences at all significant receptor locations.

- Considering engineering modifications that add plant instrumentation for potential unmonitored release pathways.

Data Collection Activities

This section provides guidance on data collection activities that have been found useful in evaluating this program element. This section is based in large part on criteria from the October 1999 draft of Volume VI of the EMG (Volume VI of DOE Guide 151-1.1).

The guidance is grouped by activities related to the evaluation of (1) hazards surveys and (2) EPHAs.

Hazards Surveys

A. Inspectors should determine whether a site emergency planning document or procedure requires performance of the hazards survey. (Note: A "procedure" is not required; in lieu of a procedure, a site mechanism should be in place that ensures that required hazards survey elements are incorporated.) Review the procedure used to develop the hazards survey and evaluate whether it specifies:

- Format and content criteria
- A multidisciplinary team appointed to develop the survey and review results
- Facility walkdowns
- Facility personnel participation
- A preliminary hazardous material screening process
- A review cycle, commensurate with DOE Order 151.1(x), to prevent the introduction of hazardous material to the site without consideration in an EPHA and to update for changes in hazardous material inventories or facility operations.

B. Inspectors should review the hazards survey to determine whether it was prepared in accordance with the procedure and possesses all appropriate elements, in matrix or tabular format. In addition, determine whether all facilities, including offsite hazardous facilities (e.g., water treatment plant using chlorine) and activities (e.g., transportation artery) that may impact the site, are considered in the hazards survey.

C. Inspectors should review the hazards survey to determine whether hazardous material screening, if performed as part of the survey process, is consistent with DOE Order 151.1(x) and Volume II of the EMG. The following activities should be performed to support this evaluation:

- Perform a comparison of threshold quantities of hazardous materials to site/facility quantities listed in the hazards survey or referenced databases.
- Determine whether screening is conservative and based on material characteristics, such as (1) used by the general public, (2) health hazard rating ≤ 2, (3) non-dispersible form (sealed-source, type B container + overpack, monolithic solid, low-vapor pressure), (4) quantity of material is easily and safely handled by one person, or (5) for radioactive materials, quantity is less than the specified thresholds from DOE-STD-1027-92.
- Determine whether hazardous materials that could affect co-located workers or the public if released are identified as requiring a quantitative EPHA (even if screening criteria have been satisfied).

D. Inspectors should cross-check emergency plan facility descriptions, the site map, and the inventory of facilities listed in the hazards survey to determine whether the hazards survey includes all facilities.

E. Inspectors should review the site's hazardous material database(s) to determine whether all hazardous materials are listed in the hazards survey, or by reference, have been identified.

F. Inspectors should walkdown a number of facilities, including the shipping and receiving warehouse, and observe transportation activities to check the accuracy of chemical, biological, and radiological hazardous material inventory database(s) used as the basis for determining amounts of hazardous materials (other than

standard office products and cleaning supplies) that are used or stored in facilities.

G. Inspectors should walkdown the emergency response facilities to determine whether an up-to-date copy of the hazards survey is available in each facility.

EPHAs

A. Inspectors should determine whether a site procedure addresses EPHA development and maintenance. (Note: A "procedure" is not required; in lieu of a procedure, a site mechanism should be in place that ensures that appropriate EPHA elements are incorporated.) Review the procedure to determine whether it specifies:

- Format and content criteria
- A process for preparation, review, and approval
- Facility personnel participation
- A multidisciplinary team appointed to prepare and review results
- A review cycle, commensurate with DOE Order 151.1(x), that establishes a mechanism to ensure that new hazards or activities or changes to hazardous material inventories are evaluated for emergency preparedness purposes prior to their introduction into the facility.

B. Inspectors should review the EPHAs to determine whether they were prepared in accordance with the procedure.

C. Inspectors should review the EPHAs to determine whether an EPHA has been prepared for each facility containing hazardous materials that were not screened out. Determine whether hazardous materials exceeding screening criteria are fully characterized (amount, location, condition of use, material properties, controls, etc.) to support development of scenarios and analysis of possible releases.

D. Inspectors should review the EPHAs, facility/activity DSA/SAR/FHA (and/or environmental impact statements), and vulnerability assessment, if applicable, to determine whether the full spectrum of emergency events and conditions that could cause releases of hazardous material are analyzed. For example, determine whether:

- Events include low-probability/high-consequence events as well as high-probability/low-consequence events.
- Vulnerability Analysis, DSA/SAR, and/or FHA scenarios are included in the assessment.
- Traditionally defined accident initiators, such as corrosion, manufacturing defects, malfunctioning equipment or control systems, and procedural or human error, are addressed.
- External causes, such as impacts of natural phenomena, accidents at nearby facilities, vehicle and/or aircraft crashes, and malevolent acts, are included.
- Pathways for waterborne and ground releases, as well as airborne release paths, are considered if the pathway requires time-urgent response.

E. Inspectors should review the EPHAs to determine whether barriers to release of hazardous materials are identified, together with the possible initiating events, accident mechanisms, and equipment failures. In addition, determine whether indicators (alarms, instrument readings) of barrier failures for use in developing EALs are identified and whether areas where indications are lacking have been identified and action initiated (e.g., plant modification requests) to correct the condition.

F. Inspectors should review the EPHAs to determine whether facility and site boundaries have been correctly defined (refer to EMG Volume II for criteria), and whether meteorological assumptions are correct. (The inspector may choose to perform an independent consequence assessment analysis on several scenarios to ensure that EPHA results are accurate and reproducible.)

G. Inspectors should review the EPHA dispersion models for determining consequences to determine whether they are equivalent to emergency response models used by the ERO.

H. Inspectors should review the EPHA to determine whether correct protective action criteria are applied to potential release scenarios (e.g., Was the correct hierarchy of determining AEGL, ERPG, or TEEL values used? Was uranium considered as a toxicological hazard as well as a radiological hazard?).

I. Inspectors should interview site management to confirm that the DOE/NNSA field office operations manager (designated representative) reviewed the EPHA for adequacy. In addition, determine whether the DOE/NNSA field office operations manager reviewed, approved, and submitted the site EPZ to appropriate Headquarters staff. Confirm that offsite jurisdictions concur with the EPZ determination.

J. Inspectors should review preplans and plans for hazardous material spill prevention and cleanup to determine whether they are adequate to address hazardous material spills in the quantities identified in the EPHA.

K. Inspectors should walkdown the site's emergency response facilities to determine whether the consequences to onsite and offsite receptors of interest have been calculated and documented in readily available EPHAs or associated derivatives (e.g., Emergency Assessment Resource Manual, or EARM).

L. Inspectors should observe and evaluate the use and usability of EPHAs (or associated derivatives) by consequence assessment personnel in drills, exercises, or performance tests.

M. Inspectors should interview site emergency management staff to determine whether the identification of large quantities of hazardous materials has resulted in site actions to minimize risk, such as:

- Limiting/scheduling amounts to just-in-time quantities
- Segregating quantities of stored materials
- Altering processes to use other, less hazardous materials
- Eliminating unneeded materials.

Data Analysis and Ratings

Inadequate hazards surveys and EPHAs can result in a site being unable to respond adequately to emergencies because the available response tools and resources are not commensurate with the hazards present or in a useable form to support a timely response.

The results of the data collection effort may indicate areas where the hazards surveys and EPHA elements of the emergency management program do not meet DOE order requirements, EMG Volume VI criteria, EMG guidance, or other best management practices. The impact of any deficiency on the site's emergency response capability must be considered in evaluating and rating this program element.

Chapter 3 of this inspectors guide provides general guidance in analyzing the data and rating the emergency management program.

Potential Impacts on Other Program Elements

Inaccurate identification or characterization of hazards or interpretation of survey and assessment results will adversely affect nearly all emergency management program elements. A description of the relationship of hazards surveys and EPHAs to other program elements are discussed below.

Categorization/classification. The hazards surveys and EPHAs are used to identify event scenarios and indications (such as indications of barrier failure) that are used to develop EALs to categorize/classify hazardous material emergencies.

Protective actions and re-entry. The EPHAs are used to identify protective actions that may be appropriate for different event scenarios.

Notification and communications. The hazards surveys and EPHAs help determine notification and communication needs. The transport times and the impacts of hazardous material releases will define the need for systems, procedures, and staff to carry out notifications in a timely manner. Proper notifications are necessary to achieve the proper response by offsite authorities.

Consequence assessment. The source term data and consequence calculations required in the EPHAs provide the basis for selecting consequence assessment models and/or techniques for use during actual emergencies.

Offsite response interfaces. The results of the hazards surveys and EPHAs are used to help identify all agencies and organizations (e.g., local, state, and Federal) necessary to support a comprehensive integrated response. In addition, the EPHAs should be used to define needs for specialized offsite support, such as ambulances, medical facilities and personnel, hazardous materials response teams, firefighting support, and public affairs interfaces. This should result in preplanned integrated response actions, through written agreements, to facilitate an effective response.

Emergency medical support. By using the results of the hazards surveys and/or EPHAs, medical and emergency planners should be able to develop a tailored system to protect the health and safety of DOE/NNSA workers and the public. The hazards analyzed in the EPHAs will define the medical support and staff skills required, in addition to the need for such special preparations as decontamination supplies; chelating, neutralizing, and blocking agents; and medical staff training in treatment of victims exposed to site-/ facility-specific hazards.

Emergency public information. EPI activities and the number of EPI staff required to respond effectively to an emergency will vary in part with the nature, severity, and duration of the emergencies analyzed in the EPHAs.

Emergency facilities and equipment. The site/facility must have adequate equipment and supplies to meet the needs determined by the results of the EPHAs. The Emergency Operations Center (EOC) design and operations should provide for effective emergency response based on an analysis of emergency response needs. The EOC should remain operational and life-supporting for an extended period of time under accident conditions (as derived from the facility EPHAs).

ERO training and drills. Scenarios from the DSA/SAR/FHA and the EPHAs help define necessary response actions, which in turn provide the basis for determining all of the tasks that emergency responders must be capable of performing.

Section 2B

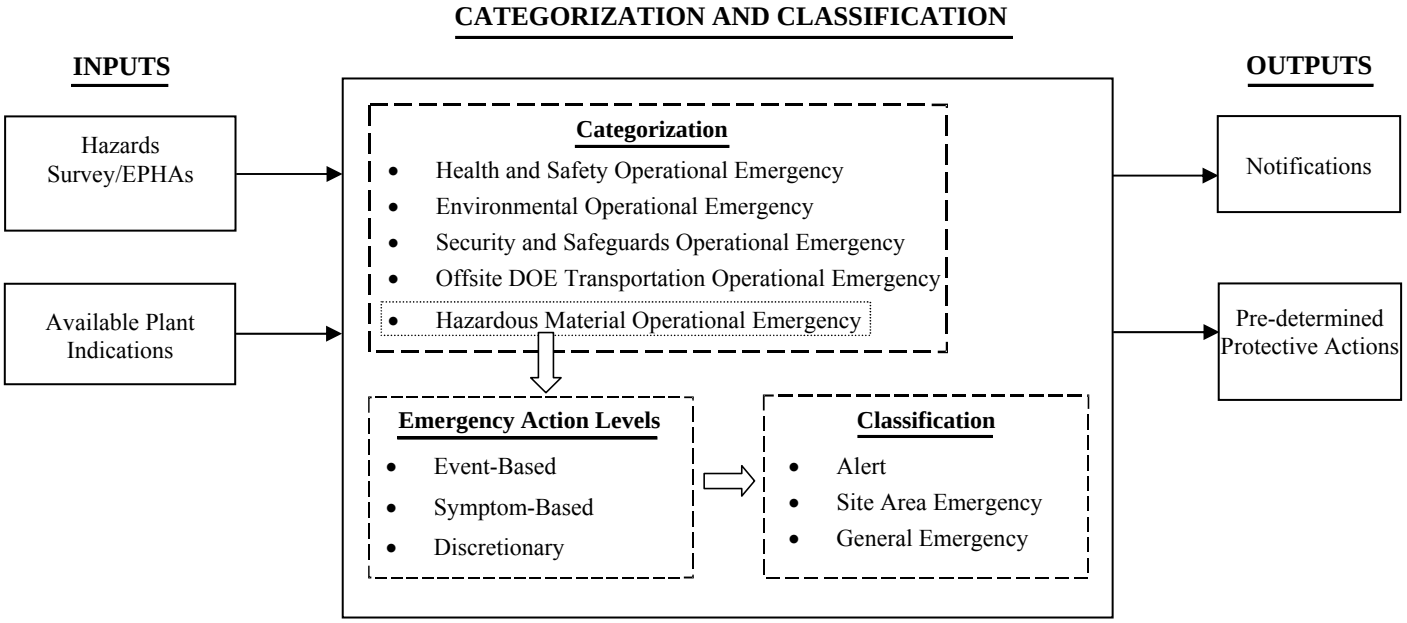
CATEGORIZATION AND CLASSIFICATION

Contents

General Information

Event categorization and classification initiate the dissemination of information about an operational emergency so that proper response actions can be initiated at all levels of DOE/NNSA. Therefore, it is very important that the capability exists to perform this function quickly and accurately. Important elements of this capability include (1) clear designation of a person who is available at all times and responsible for rapidly evaluating, categorizing, or classifying the event, and (2) EALs that are clear and use plant indications for classifying the event. The EALs should be derived from information contained in the EPHAs for the facilities and activities at the site. The categorization and classification process initiates preplanned event response actions, such as notifications of the event to DOE/NNSA field and Headquarters organizations and offsite officials, and activation of the site ERO (for more serious events). In addition, predetermined onsite protective actions and offsite protective action recommendations may be issued based upon the classification level. The figure below illustrates this concept.

The objective of the evaluation of this area is to determine whether the site has the capability (e.g., procedures, personnel, and training) to promptly categorize and classify events.



Relevant Site Documents

The following is a list of site documents that the inspector may choose to review before or during the performance of onsite data collection.

- **Site hazards survey** – should identify facilities and activities that may incur operational emergencies.
- **EPHA(s) for facilities and activities of interest –** should identify event scenarios and indicators/bases for facility and transportation EALs.
- **Transportation EPHA –** should provide the basis for site transportation EALs.
- **Vulnerability analysis for facilities of interest (note: may be classified)**
- **Categorization and classification procedure**
- **EALs**
- **Notification forms**
- **Emergency plan –** describes the roles and responsibilities of the ERO in categorizing and classifying emergency events.
- **Emergency plan implementing procedure(s) –** contains implementing procedures, checklists, and job aids for categorizing and classifying emergency events, and for performing notifications to offsite agencies that receive public protective action recommendations correlated with emergency classifications.
- **Memoranda of agreement –** agreements among the site, local jurisdictions, and the state regarding the categorization and classification methodology, and agreements regarding notifications of non-emergency significant events.
- **Lesson plans** – curriculum lesson plans for ERO members responsible for classifying emergency events.
- **Training and qualification records** – for individuals qualified as decision-makers and responsible for classifying events.

Common Deficiencies/Potential Concerns

This section identifies areas where concerns or deficiencies have been identified in previous inspections. These are grouped by the ISM guiding principles or core functions that are most applicable. By reviewing this information before gathering data, inspectors can be aware of these deficiencies and concerns during interviews, walkdowns, and other data gathering activities. However, the inspector should not simply focus his/her evaluation on whether these deficiencies exist at the site being evaluated, but rather should consider all aspects of this emergency management program element (including strengths and weaknesses).

Line Management Responsibility for Safety/Clear Roles and Responsibilities

DOE/NNSA and contractor management should ensure that processes are in place for the review of EALs. SP-43 has identified two areas where appropriate reviews have not occurred:

- EALs and emergency classifications have not been reviewed with and understood by offsite emergency response officials.
- EALs have not been verified as accurate or validated as useable by site or facility decision-makers.

Emergency managers should ensure that accurate categorization and classification decisions are reflected on notification forms by reviewing and approving them before transmitting the forms to offsite authorities.

Competence Commensurate With Responsibility

- SP-43 has found that, at some sites, decision-makers responsible for classification have not been trained and/or drilled in categorization and classification.

- Personnel who receive initial notification of an event in progress are sometimes slow in categorizing and classifying the event. This results in a delay in applying adequate response assets to mitigate the event. It also causes a delay in determining and implementing protective actions and protective action recommendations.

Identification of Safety Standards and Requirements

EALs are important for initiating dissemination of information to prompt response actions that are commensurate with the severity of the event. At some sites, SP-43 has identified concerns with EALs or classification procedures that reduce their effectiveness. Examples of the problems with EALs or classification procedures include:

- No implementing procedure exists for categorizing and classifying emergency events.

- The categorization/classification procedure is considered guidance and, therefore, use and adherence is at the discretion of the user.

- EALs are ambiguous, do not take into consideration human factors, and are not comprehensive.

- EALs have not been developed for the full spectrum of emergency events that could potentially affect the site (e.g., EALs for malevolent acts are not included).

- EALs have not been developed for onsite transportation events and/or thresholds for offsite transportation events (operational emergencies not requiring classification) do not exist.

- EAL thresholds are not derived from the EPHA.

- The EAL/classification matrix is not based on definitions of classifiable emergencies defined in DOE Order 151.1(x).

- When using discretionary EALs, event classification is not consistent with protective actions implemented.

- Discretionary EALs that are, for example, based on safety system status have not been developed.

- Symptomatic EALs based on available instrument readings have not been developed.

- EALs are not integrated with the formulation of protective actions for all population groups.

- EALs are not integrated with occurrence reporting procedures.

- No guidance exists for classifying multiple events.

- The EAL matrix does not support timely classification of emergencies or determination of protective actions. For example, the classification scheme cannot be implemented until field monitoring data is obtained.

- Thresholds have not been developed for operational emergencies not requiring further classification.

- Decision-makers incorrectly classify events more severely than warranted because they believe it to be a conservative approach.

Hazard Controls Tailored to Work Being Performed

SP-43 has found at some sites that plant indications or monitoring instruments to support timely classification may not be available. Examples include:

- Instruments that monitor barrier integrity are not available and plant modifications are not considered for installation.

- Chemicals identified in the EAL matrix cannot be directly measured in the field or by sampling and onsite laboratory analysis.

Data Collection Activities

The following data collection activities have been found to be beneficial in evaluating this emergency management program element. The inspector should choose which of the activities to perform based upon the focus of the evaluation and the site-specific features of the emergency management program.

A. Review the emergency plan and implementing procedures to determine whether:

- They unambiguously identify the individual in the ERO who is responsible for categorizing and classifying emergency events, and whether the responsible individual is available to perform the action in a timely manner commensurate with the hazard and the proximity to affected populations.

- The EALs contained in the emergency plan implementing procedures are generally consistent with the EALs described in the emergency plan and proposed by the EPHA.

B. Review the categorization/classification implementing procedure to determine whether:

- It provides adequate guidance on implementing the methodology and addresses such issues as length of time to classify, action to take if event information is unclear, and action to take if multiple EAL thresholds are exceeded.

- Mechanisms are available to permit classification of security events based on the potential for a release of hazardous materials.

- Thresholds for operational emergencies not requiring further classification have been included in accordance with DOE Order 151.1(x).

- Event categorization/classification initiates a set of preplanned response actions, such as mobilization of resources to mitigate consequences of the event, and activation of necessary analytical and additional decision-making capabilities to make sound determinations regarding further actions.

- Thresholds (EALs) for recognizing emergency conditions are integrated to the extent possible with routine monitoring performed during normal plant operations.

- The classification methodology includes event termination criteria, and no provisions exist for "downgrading" event classifications.

C. Review the categorization/classification implementing procedure, job aids and/or applicable EAL document/manual to determine whether:

- EALs, together with predetermined protective actions, have been identified and developed for the range of potential emergency events and conditions analyzed in the site/facility and transportation EPHAs.

- Symptomatic EALs have been preferentially developed where possible for emergency event recognition.

- Sitewide EALs have been prepared for such conditions as incidents affecting multiple facilities.

- EALs are annotated with facility mode dependency, where appropriate. (Note: This may be appropriate for facilities where event consequences are significantly different based upon the mode; e.g., operating versus shutdown of the facility.)

- Thresholds for the three emergency classes (Alert, Site Area Emergency, and General Emergency) are based on and defined in terms of actual or potential consequences from a release of hazardous materials resulting in a dose or exposure that exceeds protective action criteria as defined in DOE Order 151.1(x).

- Emergency managers are responsible for reviewing and approving notification forms containing event classification information before they are disseminated to offsite authorities.

D. Determine whether facility and site boundaries have been correctly applied in EAL development (refer to EMG Volume II for criteria).

E. Review training procedures and records for personnel responsible for categorizing and classifying emergency events to determine the nature and frequency of training. (Coordinate with inspector of Training and Drills program element.)

Facility/Equipment Walkdowns

F. Perform a walkdown of facilities to determine whether indicators referenced in the EALs are available, correctly identified, and useful for classifying events (e.g., readable, correct range). Also note any available indications that could have been incorporated into EAL threshold indicators.

G. Perform a walkdown of onsite emergency response facilities to determine whether EALs are available and current.

Performance Testing

Note: General guidance on conducting the following performance tests is contained in SP-43's Emergency Management Limited Scope Performance Test Inspector's Guide.

H. Conduct performance-based tests with initial decision-makers having responsibility for event categorization and classification. Present hypothetical scenarios to the decision-maker(s), with incoming field information and staff recommendations, as applicable, in real time. Determine the adequacy of tools for categorizing and classifying operational and security emergencies, and the adequacy of training and drilling the decision-maker in implementing the tools. Consider accuracy and timeliness of categorization and classification decision-making. Note the use of notification forms regarding categorization and classification and the level of review and approval they receive before transmittal to offsite authorities.

Interviews

I. Interview the emergency response managers and initial decision-makers responsible for classification to determine whether they are active participants in development, verification, or validation of EALs.

J. Contact the offsite EROs that respond to classified events to determine whether they have the current EALs and understand their purpose and use during an emergency.

K. Interview site personnel responsible for developing EALs to determine whether areas where the unescorted public is allowed can be evacuated within one hour of an emergency event and whether those areas are considered

within the site boundary for emergency classification purposes.

Data Analysis and Ratings

The results of the data collection effort may indicate areas where the categorization and classification element of the emergency management program does not meet DOE order requirements, EMG Volume VI criteria, EMG guidance, or other best practices. The impact of any deficiency on the site's or facility's ability to categorize and classify events must be considered in rating this program element.

Chapter 3 of this inspectors guide provides general guidance in analyzing the data and rating program elements.

Potential Impacts on Other Program Elements

Analysis of the categorization and classification program element may identify impacts to/from other emergency management program elements. Examples of the relationship between the categorization and classification program element and other program elements are:

Hazards surveys and EPHAs. Emergencies involving hazardous material are classified using EALs that are developed based on the accident and emergency event scenarios and the determination of the consequences in the EPHAs. Consequently, incomplete or incorrect EALs may indicate a weakness in the EPHA.

Protective actions and re-entry. Protective actions for all population groups should be linked to the emergency classification. If events are not classified at the appropriate level (i.e., Alert, Site Area, or General Emergency), then adequate protective actions may not be initiated.

Notification and communications. Prompt and accurate notifications of event categorization and classification are essential to mitigate consequences, activate EROs and emergency facilities, recall essential personnel, and notify offsite agencies responsible for protecting the health and safety of the public.

Consequence assessment. The results of the initial and continuous consequence assessment are used in event categorization/ classification.

ERO. The ERO configuration may be contingent on the severity of the emergency (emergency category and class).

Offsite response interfaces. The response by offsite organizations is contingent on the severity of the emergency (emergency category and class) and the required functions, such as ambulances, medical facilities and personnel, hazardous materials response teams, fire-fighting support, and public affairs interfaces.

EPI. EPI activities and the number of EPI staff required to respond effectively to an emergency will vary in part with the nature, severity (emergency category and class), and duration of the emergency.

Training, drills, and exercises. Weaknesses noted in the ability to make accurate and timely categorization and classification decisions could be indicative of weaknesses in the methods and/or frequency of training personnel or critiquing their performance.

Section 2C

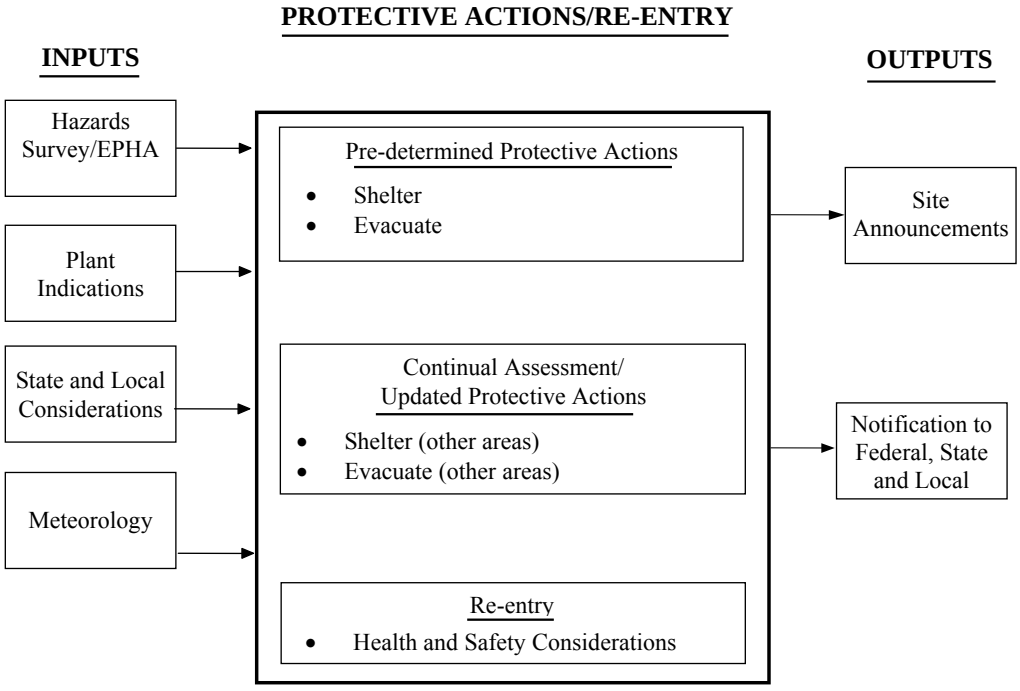
PROTECTIVE ACTIONS AND RE-ENTRY

Contents

General Information

The primary purpose of an emergency management program is to provide the capability to protect site workers and the public in case of an accident at one of the facilities on the site. The protective actions that may be appropriate are based upon the hazards (e.g., hazardous materials and energetic sources) present at the site and mechanisms that may result in the release of the hazardous materials. These are identified as part of the hazards survey and EPHA. During an event, protective actions will be based upon the classification level of the event and consequence assessments. The figure below illustrates this concept.

The objective of the evaluation of this area is to determine whether the site has the capability (e.g., procedures, personnel, and training) to promptly formulate and take protective actions for site personnel and to promptly formulate and recommend protective actions to offsite authorities. In addition, evaluation of this program element includes review of the site plans and capabilities for re-entry of a facility following an event.



Relevant Site Documents

The following is a list of site documents that the inspector may choose to review before or during the performance of onsite data collection.

- **Site hazards survey –** should identify facilities and activities that may incur operational emergencies.
- **Site EPHA(s) for facilities of interest –** should identify recommended protective actions to be taken for each consequence assessment scenario analyzed that has the potential of causing an operational emergency.
- **Transportation EPHA –** should identify recommended protective actions to be taken for each transportation consequence assessment scenario analyzed that has the potential of causing an operational emergency.
- **EALs**
- **Department of Transportation (DOT) Emergency Response Guidebook**
- **EARM (or equivalent) –** compiled data derived from the EPHA or other relevant sources that a site uses to perform timely initial assessment and formulate predetermined protective actions. This type of resource provides a summary and description of any preprogrammed or "canned" site-specific consequence assessment scenarios stored in computer systems together with predetermined protective actions.
- **Emergency plan –** includes a description of the roles and responsibilities of the ERO in determining and implementing protective actions, and establishing re-entry requirements.
- **Emergency plan implementing procedure(s) –** procedures for determining and implementing protective actions, notifying offsite agencies that receive public protective action recommendations, and conducting re-entry.
- **Memoranda of agreement –** may document consensus among the site and the offsite jurisdictions regarding protective actions to be implemented in demographic sectors surrounding the site.
- **Lesson plans –** curriculum lesson plans for ERO members responsible for formulating protective actions.
- **Training and qualification records –** for individuals qualified as decision-makers and responsible for formulating and implementing protective actions.

Common Deficiencies/Potential Concerns

This section identifies areas where concerns or deficiencies have been identified in previous inspections. These are grouped by the ISM guiding principles or core functions that are most applicable. By reviewing this information before gathering data, inspectors can be aware of these deficiencies and concerns during interviews, walkdowns, and other data gathering activities. However, the inspector should not simply focus his/her evaluation on whether these deficiencies exist at the site being evaluated, but rather should consider all aspects of this emergency management program element (including strengths and weaknesses).

Competence Commensurate with Responsibilities

At some sites, initial decision-makers have not received comprehensive training on protective actions, and personnel responsible for developing protective action recommendations are not proficient in performing this task. As a result, protective actions may be delayed and/or less accurate. Proficiency problems have been found in the following areas:

- Initial decision-makers cannot interpret protective actions accompanying EALs or formulation tools, such as the EARM and/or DOT Emergency Response Guidebook, and therefore do not determine and implement correct protective actions in a timely manner.

- Emergency response managers responsible for formulating protective action recommendations may not be familiar with the criteria for classifying emergencies and issuing protective actions and cannot use site procedures to identify these criteria.

- Emergency response managers may not implement appropriate protective actions when challenged with a plume approaching workers at the primary staging area. (Applicable procedures may lack sufficient guidance.)

- Consequence assessors may not apply the correct protective action criteria when formulating protective action recommendations for decision-makers.

- Co-located workers may not be promptly notified of required protective actions affecting their health and safety.

- Key security force dispatch and response personnel may lack familiarity with emergency management concepts of isolation zones, protective action zones, and EPZs to ensure their safety during a hazardous material release. Emergency response managers may not recognize the need to station responding protective forces outside of protective action zones, thereby jeopardizing the safety of those personnel in the event of a hazardous material release. Security forces may not possess personal protective equipment and/or may not be trained on its use.

- Emergency response managers may rely on their memory instead of using implementing procedures for performing tasks related to the formulation of protective actions.

- When the DOE/NNSA emergency manager and the site emergency manager are physically separated, decisions (such as the upgrade to a General Emergency and protective action recommendations for the affected public) may be delayed.

- Emergency managers may initiate an unwarranted site evacuation because they believe it is always a conservative approach.

- Emergency managers and consequence assessment team members may not understand protective action criteria usage or be able to apply dispersion model output data to protective action decision-making.

- Emergency managers and consequence assessment team members may not understand each other's expectations or capabilities.

- Decision-makers may not have tools to determine how far and wide an area downwind to apply protective actions.

- On-scene protective action tools may not be consistent with EOC protective action tools (e.g., sector zones versus building numbers) resulting in delayed actions or misunderstandings in protective actions directed and protective actions taken.

- On-scene responders may not apply protective actions to themselves and may be too close to the event scene without proper protection.

- Decision-makers may not consider building exchange rates with outside air when sheltering in place.

- Personnel may not be assigned or trained to perform shelter-in-place tasks, such as closing doors and windows and securing ventilation systems.

- Decision-makers may not fully consider plume versus puff release consequences or hazardous material transport times when formulating protective actions.

Identification of Safety Standards and Requirements

SP-43 has found that personnel responsible for formulating protective action recommendations sometimes lack ready access to the procedures or tools they need in order to perform their duties. Examples of information/tools that were not available to personnel responsible for formulating protective action recommendations include:

- An EARM (or equivalent) is not available, and the site's hazards survey and EPHA do not contain easily interpreted tables and matrices to allow their use as an emergency response tool for determining the areas affected by a hazardous material release.

- Procedures for updating protective action recommendations following analysis of consequence assessment or field monitoring data are not available.

- Consequence assessors lack tools for overlaying consequence projections onto maps showing impacted areas, receptors, and applicable protective actions.

- Map scales are not provided or, where multiple scales are provided, are unclear as to where they apply.

- Maps do not reflect all buildings on site.

- Site-adopted protective action criteria are not completely defined.

- Sites have not integrated the Office of Secure Transportation's protective action card system into their emergency management program, where applicable.

- Emergency plans and procedures lack guidance on roles and responsibilities for deploying protective forces to an incident scene outside a facility boundary without placing the forces in jeopardy.

- The facility emergency plan and implementing procedures do not adequately address the protective actions for a puff release of a non-penetrating radiation plume. Personnel could therefore be mistakenly directed to evacuate to an assembly area rather than to shelter in place.

- The protective action guides for emergency workers are not consistent with 10 CFR 835 dose limits and may not contain the 10 CFR 835 requirements for approvals.

- The documents or tools used by incident commanders for recommending initial protective actions are uncontrolled and not specifically supported by approved emergency plan implementing procedures. If job aids are provided, they may contain decision paths that lack observable criteria.

Data Collection Activities

The following data collection activities have been found to be beneficial in evaluating this emergency management program element. The inspector should choose which of the activities to perform based upon the focus of the evaluation and the site-specific emergency management program.

Document Review

A. Review the emergency plan and associated implementing procedures to determine whether they:

- Identify the individual in the ERO who is responsible for formulating and implementing protective actions for on-scene responders and co-located workers, and formulating protective action recommendations for offsite authorities.

- Identify the individual in the ERO who is responsible for authorizing utilization of radioprotective drugs.

- Identify the individual in the ERO who is responsible for authorizing emergency worker exposures in excess of site administrative limits.

- Identify protective actions for the range of potential emergency events and conditions analyzed in the EPHA, and note whether this information has been put into a form suitable (e.g., tabulated) for ready reference with EALs.

- Provide methods for determining the area (distance and breadth) where protective actions are required. Ensure that the facility procedures include criteria for determining the most effective protective action.

B. Review re-entry implementing procedures to determine whether they require a rescue team for the re-entry team and employ the "buddy system." Determine whether procedures are consistent with National Fire Protection Association requirements.

C. Determine whether the site has procedures that provide for search-and-rescue methods, whether search-and-rescue team composition is predetermined, and whether team members are qualified to perform the task. Determine whether procedures are consistent with National Fire Protection Association requirements.

D. Review drill records to determine whether facility evacuation drills are periodically conducted. Review records to determine whether assembly for accountability can be completed within the required time (coordinate with inspection of Training and Drills program element).

E. Review training procedures and records for personnel responsible for recommending onsite and offsite protective actions to determine the frequency of training of the ERO on protective actions (coordinate with inspection of Training and Drills program element).

Facility Walkdown

F. Walkdown control areas and/or the incident commander's command vehicle to determine whether tools used to formulate and implement timely protective actions for all affected population groups are available in these locations as appropriate.

G. Walkdown locations where consequence assessments and protective actions are formulated to determine whether necessary presentation materials, such as maps and data recording sheets, are available.

Interviews

(Note: Coordinate with the team leader for setting up any discussions with offsite officials.)

H. Interview onsite emergency managers to determine whether they have a clear understanding of their responsibilities regarding determining and issuing protective actions for site personnel and protective action recommendations to state and local government organizations. Determine emergency managers' awareness of employees with any handicap, particularly deaf employees and those with mobility problems.

I. Interview offsite officials to determine whether they have a clear understanding of their actions to take upon receipt of protective action recommendations issued by the site emergency manager.

Performance Tests

(Note: General guidance on conducting the following performance tests is contained in SP-43's Emergency Management Limited Scope Performance Test Inspectors' Guide.)

J. Conduct performance-based tests with initial decision-makers having responsibility for formulating protective actions. Present hypothetical scenarios to the decision-maker(s), with incoming field information and staff recommendations, as applicable, in real time. Determine the adequacy of tools for formulating and implementing protective actions for all population groups in response to operational and security emergencies, and the adequacy of training and drilling the decision-maker in implementing the tools. Consider accuracy and timeliness of protective action decision-making.

K. Conduct performance-based tests with the ERO consequence assessment team or person(s) responsible for performing technical analysis to assist the site emergency manager in formulating protective action recommendations. Present hypothetical scenarios to the team, with incoming field information in real time. Determine the adequacy of tools for performing continuous assessment and formulation of protective actions, and the adequacy of training and drilling of the consequence assessment team in implementing the tools. (Note: This performance-based test may be combined with the evaluation of the ERO consequence assessment function.)

Data Analysis and Ratings

The results of the data collection effort may indicate areas where the protective actions and re-entry element of the emergency management program does not meet DOE order requirements, EMG Volume VI criteria, EMG guidance, or other best practices. The impact of any deficiency on the site's ability to use these documents as the basis for formulating and issuing protective actions and controlling re-entry efforts must be considered in rating this program element.

Chapter 3 of this inspectors guide provides general guidance in analyzing the data and rating program elements.

Potential Impacts on Other Program Elements

Analysis of the protective action and re-entry program element may identify impacts to/from other emergency management program elements. Examples of the relationship between protective actions and the re-entry program element and other program elements are:

Hazards survey and EPHA(s). These documents describe the hazardous materials at the site and potential areas affected by a release of the hazardous materials. This information is used to develop initial protective actions and in determining the type of protective actions that may be warranted.

Categorization/classification. The protective actions implemented in response to an event are directly linked to the event categorization and classification as determined using the EALs.

Notification and communications. Prompt and accurate communications and notifications to onsite workers and offsite agencies responsible for protecting the health and safety of the public are essential to ensure that protective actions can be implemented in time to be effective.

Consequence assessment. The assessment of consequences is the basis for determining the most effective protective actions.

Offsite response interface. DOE/NNSA and contractors must coordinate with responsible offsite agencies to plan for the recommendation and implementation of protective actions.

EPI. The EPI organization, working through the Joint Information Center (JIC), is the single authoritative source of information regarding the event response, protective actions implemented on site and recommended to offsite authorities, and long-term implications.

Emergency facilities and equipment. The site/facility must have adequate equipment and supplies to implement the predetermined protective actions.

Training drills and exercises. Responders' unfamiliarity with formulating and implementing protective actions is indicative of weakness that may originate in the training, drill, and exercise programs. This may be the result of incorrect or no training, use of improper training settings, training that is too infrequent, or absence of or non-critical performance evaluation techniques.

This page is intentionally left blank.

Section 2D

CONSEQUENCE ASSESSMENT

Contents

General Information

Consequence assessment is the process used to evaluate the impacts of a release of hazardous materials. The primary objective of this process is to provide timely, useful information to emergency managers for use in making informed decisions to protect site personnel, the public, and emergency responders.

Consequence assessment is conducted in three phases during an emergency response: (1) immediately upon recognition of the emergency using readily available tabulated results of consequence calculations conducted in advance; (2) in the first few minutes of a response using any available real-time event and meteorological information, and (3) throughout the event by the ERO consequence assessment staff, who typically report to the EOC.

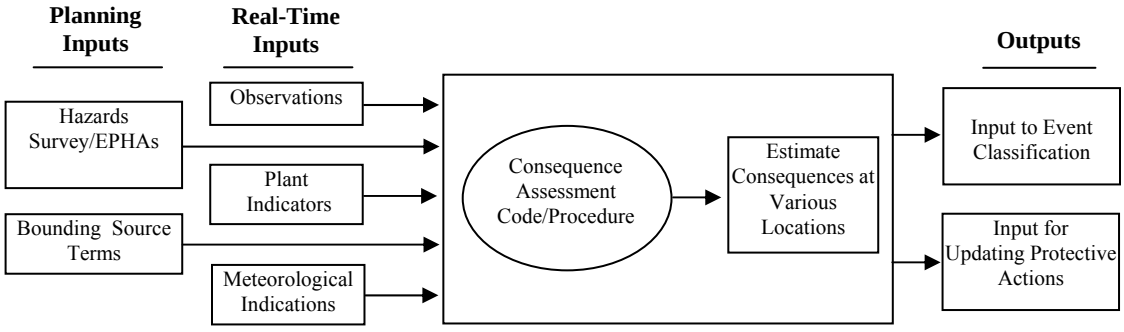
The facility/site being evaluated is required to have the capability to evaluate the consequences of a potential accidental release of both radiological and non-radiological (e.g., chemical, biological) hazardous materials.

The facility/site hazards survey and EPHA form the basis for the consequence assessment capability. Key elements of the consequence assessment capability include:

- Consequence assessment codes/procedures
- Availability and identification of inputs to consequence assessment codes/procedures (e.g., meteorological data, source term data)
- Process for using the consequence assessment results for classifying events and formulating protective actions.

The figure below illustrates the inputs and outputs of consequence assessment codes/ procedures and the interface with other emergency management program elements.

CONSEQUENCE ASSESSMENT ELEMENTS



Relevant Site Documents

The following is a list of site documents that the inspector may choose to review before or during the performance of onsite data collection.

- **Site hazards survey –** should identify facilities and activities that may incur operational emergencies.
- **Site EPHA(s) for facilities of interest –** should identify each consequence assessment scenario analyzed that has the potential of causing an operational emergency.
- **Transportation EPHA –** should identify each transportation consequence assessment scenario analyzed that has the potential of causing an operational emergency.
- **EALs**
- **DOT Emergency Response Guidebook**
- **EARM (or equivalent)**
- **Emergency plan –** includes a description of the roles and responsibilities of the ERO in performing consequence assessment.
- **Emergency plan implementing procedure(s)**
  - Procedures for implementing timely initial assessment (manual or computer-aided assessments performed by initial responders and/or decision-makers) and continuous assessment performed by consequence assessment team.
  - Sample printouts of the dispersion model output and meteorological monitoring data.
  - Forms for recording and communicating consequence assessment results.
  - Plans and procedures for conducting field monitoring and methods for refining consequence assessments based on backfit of empirical data.
- **Computer manual(s) –** procedures for operating consequence assessment hardware and software; documentation of the computer code(s) used to perform consequence assessment.
- **Procedures or quality assurance manual –** instructions for maintaining the integrity of computer codes and modeling software.
- **Lesson plans –** curriculum lesson plans for members of the consequence assessment team.
- **Training and qualification records –** for individuals qualified to perform consequence assessment and dose modeling.

Common Deficiencies/Potential Concerns

This section identifies areas where concerns or deficiencies have been identified in previous inspections. These are grouped by the ISM guiding principles or core functions that are most applicable. By reviewing this information before gathering data, inspectors can be aware of these deficiencies and concerns during interviews, walkdowns, and other data gathering activities. However, the inspector should not simply focus his/her evaluation on whether these deficiencies exist at the site being evaluated, but rather should consider all aspects of this emergency management program element (including strengths and weaknesses).

Competence Commensurate with Responsibilities

At some sites, initial decision-makers have not received comprehensive training on consequence assessment development activities

or tools, and personnel responsible for performing consequence assessments are not proficient. As a result, assessments may be delayed and/or less accurate. Proficiency problems have been found in the following areas:

- Understanding the impact of meteorological factors, such as wind direction, speed, and atmospheric stability, on potential onsite and offsite consequences.
- Reconciling differences among various consequence projections (e.g., pre-established consequence estimates versus those run during an exercise) based on the duration of the release (e.g., puff versus plume).
- Modifying default consequence modeling parameters to reflect site-specific requirements (such as modifying the level of concern in dose concentration consequence codes [e.g., ALOHA] to reflect correct protective action criteria values).
- Reconciling differences in field monitoring readings versus dose projections, and understanding the information provided by different instruments employed by various field teams.
- Determining the potential for a hazardous material release based on available plant indications, such as any threat to the integrity of material barriers.
- Using the correct protective action criteria to compare with consequence assessment results for the purpose of formulating protective action recommendations for decision-makers.
- Refining consequence projections based on updated or confirmed source term information, and determining the consequences of "what if" conditions.
- Emergency managers and consequence assessment team members may not understand each other's expectations or capabilities.
- Being proficient in the use of the latest revision to the dispersion models.
- Using all dispersion models available to the consequence assessment team.
- Understanding the site's protective action criteria.
- Accessing up-to-date protective action criteria.
- Accessing and using such reference materials as password protected computers and data files, material safety data sheets, conversion factors, and meteorological data.
- Relying on an expert-based process that is dependent on consequence assessment team membership.
- Providing timely consequence assessment data to emergency managers in an understandable format.

Identification of Safety Standards and Requirements

SP-43 has found that consequence assessors sometimes lack ready access to the information/tools they need in order to perform timely and accurate consequence assessments. Examples of information/tools that were not available to consequence assessors include:

- Source-term information (such as container contents, not container size) and conversion factors for determining source terms from chemical reactions.
- Use of different dispersion modeling programs or revisions at various venues where consequence assessments are performed, resulting in different output data.

- Field monitoring data from various field teams due to communication system incompatibilities.

- Tools to overlay consequence projections onto maps showing impacted areas and receptors.

- Consequence assessment team members' security clearance levels may not allow access to source term information.

Data Collection Activities

The following data collection activities have been found to be beneficial in evaluating this emergency management program element. The inspector should choose which of the activities to perform based upon the focus of the evaluation and the site-specific emergency management program.

Document Reviews

A. Inspectors should review the site emergency plan to determine whether it describes the roles and responsibilities of ERO members in performing (1) timely initial assessment (and the mechanisms to be employed), and (2) continuous assessment (and the mechanisms to be employed).

B. Inspectors should review emergency plan implementing procedures or other emergency management supporting documents to determine whether:

- Source term information has been identified for the range of potential emergency events and conditions analyzed in the EPHAs, and whether this information has been put into a form (e.g., tabulated) for ready reference and access.

- The consequences of a release of hazardous materials for each accident scenario have been correlated to observable indicators.

- Mechanisms have been established for incorporating event-specific data (source term, meteorology, receptor locations) into consequence analyses as it becomes available.

- Procedures identify and reference data sources, such as instruments or documents, which are to be used to determine potential source terms.

- All receptors of interest have been identified and included in response documents, and whether pertinent information, such as wind direction/speed relationships, is included.

- Standard protocols for communicating monitoring data and results have been established to minimize the potential for errors in interpretation.

- The procedure factors the results of onsite and offsite field monitoring results (direct measurements and analysis of samples) into consequence assessment estimates.

- Provisions have been established to obtain the assistance of DOE/NNSA emergency response assets, such as the Radiological Assistance Program, the Accident Response Group, and the Aerial Measuring System, to support consequence assessment.

C. Inspectors should determine whether the methods for acquiring and incorporating meteorological parameters and forecast conditions into consequence assessment projections are commensurate with the quantities of hazardous materials present.

D. Inspectors should review emergency plan implementing procedures and/or code documentation to determine whether:

- Calculational methods have been developed for projecting the quantitative impact of an actual or potential release of hazardous materials within the EPZ, including airborne, aquatic, and ground pathways as applicable.

- The sophistication of the calculational method is commensurate with the severity of potential events, and whether timely results are available to support protective actions.

- There are procedures in place to activate or request connectivity to and assistance from the National Atmospheric Release Advisory Center (NARAC) plume model, including availability of timely site meteorological data.

- Correlations between monitoring instrument readings and concentrations, cumulative dose values, and/or exposure/dose rates at specific receptors have been established and are readily available to consequence assessors.

- All necessary conversion factors and calculation techniques are readily available for all identified instrumentation.

Interviews

E. Inspectors should interview initial decision-makers to assess whether they can interpret initial assessment tools to refine pre-determined decision-making tools.

F. Inspectors should interview emergency planners to determine whether:

- Provisions have been established for continuous monitoring of critical parameters that provide information needed to continually assess the consequences of an event.

- A method has been established for sharing and comparing results and resolving differences among different response organizations.

- The format, content, and level of detail of consequence assessment projections or measurements will support public information activities.

- Technical personnel with knowledge of consequence assessment estimates and dispersion characteristics have been designated and trained to present results to the media, the public, and DOE/NNSA management.

- Mechanisms are available to assure quality control of tools used in consequence assessment, such as meteorological system and dispersion analysis hardware and software.

- An evaluation of the consistency of calculation results among the EPHA scenarios, the ERO calculational methods, and DOE Headquarters and state/local agencies' results for selected scenarios has been performed. Determine whether any differences have been rationalized and documented.

Facility Walkdowns

G. Inspectors should walkdown the locations where consequence assessment is performed to determine whether:

- Tools for performing timely initial consequence assessment are available as appropriate.

- Consequence assessment hardware and software is operable in accordance with procedures and operators guides.

- Necessary presentation materials, such as maps and data recording sheets, are available.

- Necessary references are available, such as conversion factors, protective action criteria, EPHAs, EALs, material safety data sheets, National Institute for Occupational Safety and Health handbooks, DOT Emergency Response Guidebook, and meteorological data.

H. Inspectors should confirm that the output of the consequence assessment codes provide results that are consistent with the EPHAs and EALs, using a selected sample.

Performance Tests

(Note: General guidance on conducting the following performance tests is contained in SP-43's Emergency Management Limited Scope Performance Test Inspectors' Guide.)

I. Conduct performance-based tests with initial decision-makers. Present hypothetical scenarios to the decision-makers having consequence assessment responsibilities, with incoming field information in real time. Determine the adequacy of tools for performing timely initial assessment and the adequacy of training and drilling of the decision-maker in implementing the tools.

J. Conduct performance-based tests with the ERO consequence assessment team. Present hypothetical scenarios to the team, with incoming field information in real time. Determine the adequacy of tools for performing continuous assessment and the adequacy of training and drilling of the consequence assessment team in implementing the tools.

Data Analysis and Ratings

The results of the data collection effort may indicate areas where the consequence assessment element of the emergency management program does not meet DOE order requirements, EMG Volume VI criteria, EMG guidance, or other best management practices. The impact of any deficiency on the site's emergency response capability must be considered in evaluating and rating this program element.

Chapter 3 of this inspectors guide provides general guidance in analyzing the data and rating program elements.

Potential Impacts on Other Program Elements

Analysis of the consequence assessment program element may identify impacts to/from other emergency management program elements. Examples of the relationship between the consequence assessment program element and other program elements are discussed below.

Hazards surveys and EPHAs. The source-term data and consequence calculations required in the EPHA provide the basis for selecting consequence assessment models and/or techniques available for use during actual emergencies.

Categorization/classification. The results of the initial and continuous consequence assessment are used to determine/confirm the event categorization/classification. (Note: Initial categorization/classification should be based upon plant indications and not wait for consequence assessment results.)

Protective actions and re-entry. The protective actions implemented in response to an event should be consistent with the event categorization/classification, but should be adjusted if necessary based upon consequence assessment results.

ERO. The assessment process is continuous, with increasing levels of sophistication in the analysis tools, input accuracy (e.g., source term and meteorology), technical expertise, and eventually feedback from field monitoring efforts. This part of the process is conducted with the resources and professional judgment of the ERO consequence assessment staff.

Training, drills, and exercises. Weaknesses noted in the ability to produce timely consequence assessments and sound recommendations to emergency managers could be indicative of weaknesses in the methods

and/or frequency of training personnel and critiquing their performance. In particular, the absence of team training with consequence assessment team members and EOC members likely results in ineffective response because members do not understand each others roles, responsibilities, expectations, personalities, and capabilities.

Emergency facilities and equipment. Methods and equipment used to acquire and use meteorological and other environmental data in consequence assessments are commensurate with quantities of hazardous materials present in the facility. The methods and instrumentation are specific to the point of release, pathway, and material of concern. Methods and equipment should be referenced and incorporated into consequence assessment procedures.

This page is intentionally left blank.

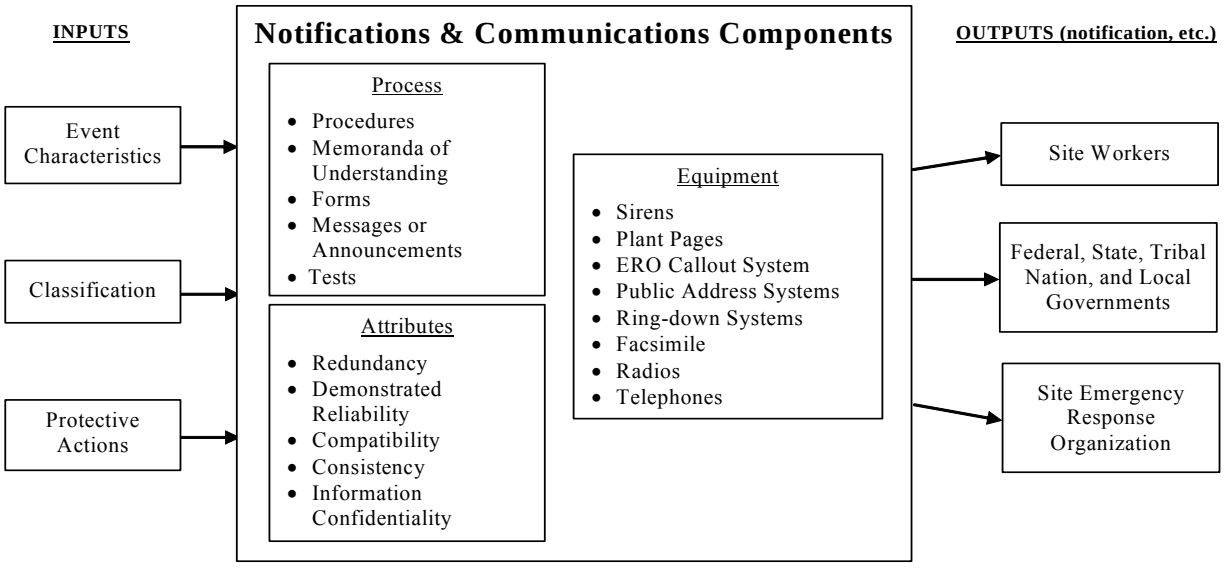
Section 2E

NOTIFICATIONS AND COMMUNICATIONS

Contents

General Information

An effective process for notifying workers and emergency response personnel/organizations and for communicating among response components and/or organizations is an important element of an emergency management program. As described in EMG Volume III, the notifications and communications element of a site/facility emergency management program refers to the formal activity of promptly and accurately informing workers, emergency response personnel, organizations, the appropriate DOE elements, and other Federal, state, local, and tribal organizations of emergency conditions that may affect the health and safety of personnel and/or the environment. The review of this element involves evaluation of procedures, training, and equipment for performing notifications. Communications equipment should include dedicated units as well as backup units, together with alarms, notification systems, and other communication links. The figure below illustrates the components of the notifications and communications program element of emergency management programs that are addressed by this section of the inspectors guide.



Relevant Site Documents

The following is a list of site documents that the inspector may choose to review before or during the performance of onsite data collection.

- **Site emergency plan –** The inspector should be particularly mindful of the plan sections related to the ERO, offsite interfaces, notifications, and facilities and equipment to understand the notification processes.

- **Site emergency plan implementing procedures –** Procedures should clearly delineate the roles, responsibilities, and requirements associated with ERO operations and interfaces. Notifications to site workers and activation of the ERO may be imbedded in other procedures; typically, formal notification to offsite agencies following a classified emergency is a stand-alone procedure.

- **Transportation emergency preparedness plan –** This plan should detail the site's notification and communication responsibilities for transportation events, including fulfilling the site statutory responsibilities for offsite events when the site is the shipper of record.

- **Memoranda of understanding or letters of agreement –** agreements among the site, local jurisdictions, and the state related to notifications and communications commitments and arrangements.

- **Forms and lists –** identifying what information will be communicated and who will be notified. In addition to being formally controlled, contact lists should be routinely updated and validated.

- **Exercise evaluations –** documents the performance evaluation of the notification and communication element during an exercise. Ideally, the inspector should review the two most recent exercises to track the strengths and weaknesses of the program and areas needing improvement. Program and plan changes resulting from these evaluations may be included in the emergency readiness assurance plan (ERAP) and identified in corrective action programs. Coordinate obtaining the exercise evaluations with the inspector evaluating the Training, Drills, and Exercises program element. Additionally, no-notice exercise reports for exercises administered by the NNSA Office of Emergency Management may provide indications of a site's notification and communication performance and capability.

- **ERAP –** provides status of notifications and communication issues and corrective actions identified by exercise and/or program evaluations.

- **State and/or local evaluations –** after a full- or partial-scale exercise/performance test, offsite organizations may provide evaluation comments of the notifications and communications element. The document may be formatted as an evaluation report or as a lessons-learned report.

- **Communications systems testing and maintenance records –** site performance test of notifications systems (e.g., telephone callout, sirens). This is a useful source of data on the reliability of the communications systems.

Common Deficiencies/Potential Concerns

This section identifies areas where concerns or deficiencies have been identified in previous inspections. These are grouped by the ISM guiding principles or core functions that are most applicable. By reviewing this information before gathering data, inspectors can be aware of these deficiencies and concerns during interviews, walkdowns, and other data gathering activities. However, the inspector should not

simply focus his/her evaluation on whether these deficiencies exist at the site being evaluated, but rather should consider all aspects of this emergency management program element (including strengths and weaknesses).

Line Management Responsibility for Safety/Clear Roles and Responsibilities

During some exercises, SP-43 has noted that the responsible official does not officially release notification messages.

Identification of Safety Standards and Requirements

SP-43 has found that standards and procedures for performing emergency response activities are not consistently implemented. Examples of deficiencies in this area include:

- Notification processes are not formalized.
- Notification processes for operational emergencies not requiring classification or for non-emergency significant events have not been developed or fully implemented.
- Notification forms are not formalized or coordinated with offsite officials.
- Notification forms do not include all of the information identified in the EMG.
- Notifications are not correctly filled out.
- Notification forms are not available at all locations where personnel responsible for notifications are stationed.
- Points-of-contact lists are outdated or incomplete.
- Equipment is inadequate to ensure that timely and accurate emergency notifications are transmitted, or backup systems are inadequate.
- Some notification systems are not described in the emergency plan.
- A formal documentation process is not implemented to ensure that notifications and key communication messages were received and verified.
- Event conditions (e.g., explosives present) prohibited the use of cell phones and radios normally used by emergency responders and alternate methods are not used/available.
- When multiple organizations are coordinating a response from different command centers, protocols of one may require classified communication systems while others remain on non-secure systems.

Data Collection Activities

The following data collection activities have been found to be beneficial in evaluating this emergency management program element. The inspector should choose which of the activities to perform based upon the focus of the evaluation and the site-specific emergency management program.

Document Reviews

A. Review the emergency plan and implementing procedures to determine whether they clearly specify mechanisms for performing timely and accurate notifications, including applicable roles and responsibilities, such as:

- The specific ERO position that is responsible for notifications at any time during an emergency
- The process for recalling the ERO and notifying site workers and offsite agencies.

B. Review emergency plan implementing procedures for making notifications to determine whether:

- Notification systems and processes are designed to permit notifications to multiple locations at the same time (in order to meet timeliness requirements).
- A message verification process is available.
- Follow-up notifications are required periodically or when significant changes occur.
- Procedural requirements dictate that if a change occurs while a notification message is being sent, the outgoing message is completed and then immediately followed with an updated report.
- Prearranged, standardized scripts for public address announcements implementing protective actions for facility personnel are available for various emergency scenarios and classifications.
- Recovery reporting is addressed by applicable procedures.
- Procedures require submittal of the Final Emergency Report in accordance with applicable requirements and guidance.
- Twenty-four-hour notification points-of-contact lists are maintained, readily available, and up to date. Verify the accuracy of several contact points.
- A rapid notification and recall system is used to make initial and follow-up notifications to primary and alternate staff.
- The use of language that is understood by recipients (including, for example, consistent time zones) is required.
- Security provisions are commensurate with the type of information to be transmitted.

C. Review the plan and procedures to determine whether:

- The communication system is detailed in the plan and procedures.
- The communication system used to order facility and partial/full site evacuation is identified and is adequate.
- The process and communication system to achieve personnel accountability and assembly is identified and is adequate.
- A system is required for formal documentation of notifications made. (The evaluator should keep in mind the potential for legal review and litigation that may follow an emergency event that requires precise record keeping.)

D. Review both the initial and follow-up notification forms to ensure that they:

- Are standardized and specify critical information (such as the example in Appendix D, Communications and Notification, of the EMG).
- The emergency manager, or designee, approves the release of notification information in accordance with procedural requirements.
- The emergency manager implements a review of the notification messages for classified information or for unclassified controlled nuclear information.

E. Determine whether forms or lists are used to identify what information will be communicated and who will be notified.

F. Review the site plan and procedures to confirm documentation of a formal communications system used to report emergency information and make notifications to:

- Facility workers
- Co-located site workers
- Onsite and offsite initial responders
- ERO
- Public present on site
- Public located outside the site boundary.

G. Confirm that communication frequencies, ERO telephone numbers, and message verification details are not available in public documents.

H. Review the memoranda of understanding to determine whether commitments made to offsite officials are current and maintained.

I. Review testing and maintenance records to determine whether periodic testing of communication equipment is performed during normal and backshift periods, and demonstrated adequate during drills and exercises. Determine whether equipment is included in a formal preventive maintenance program.

Interviews

J. Interview onsite personnel responsible for notifications and communications to determine whether the understanding of the individual(s) responsible for the notifications and communications is consistent with the plan and procedures. (Interviews may reveal processes and procedures that have not been included in the emergency plan).

K. Interview the manager of the site's emergency planning department to determine whether:

- Organizations receiving emergency notifications have agreed to the contents of the message notification form, use the same form as the site to minimize errors, and have the capability to receive and review reports on a 24-hour basis.

- Development of the form was coordinated with, and agreed upon by, offsite officials.

- The forms or lists are formally controlled and are routinely updated and validated.

L. Interview the ERO incident commander (or equivalent) to determine whether he/she is knowledgeable of his/her responsibility for making offsite notifications and can implement applicable procedural requirements.

Facility Walkdown

M. Walkdown the facilities housing the notification equipment to determine whether:

- Highly reliable primary communication equipment is installed, together with identified backup equipment.

- Determine whether special circumstances, such as unplanned power outages, will adversely affect the timeliness and accuracy of formal notifications.

N. Walkdown the facility where notifications are made to:

- Verify that a points-of-contact list is available. Note the date of the last revision.

- Verify the availability of correct notification forms. Confirm its consistency with the notification procedure.

- Verify that the personnel and equipment are in proximity to facilitate a timely notification.

- Verify that the rapid notification and recall system is able to make initial and follow-up notifications to primary and alternate staff. Determine whether the system provides for feedback indicating failed attempts to contact.

- Identify the strengths and weaknesses of the backup system.

O. Walkdown facilities, review procedures, and/or interview responsible site staff to verify that the buildings have alarms. Note the location of area alarms and public address systems, how they are activated, and who approves the activation. Particular attention should be made to notification methods in areas of high noise, where deaf employees work, or in remote areas.

Performance Tests

(Note: General guidance on conducting the following performance tests is contained in SP-43's Limited Scope Performance Test Inspector's Guide.)

P. Conduct performance-based tests with initial decision-makers and expected support staff. Present hypothetical scenarios to the decision-makers, with incoming field infor-mation in real time. Determine the adequacy of tools for collecting data, recording decisions, and reviewing and approving information to be transmitted to offsite authorities. Ensure that process and facility equipment facilitate a timely notification to all required offsite authorities. Observe use and adequacy of tools to ensure that follow-up notifications are made periodically or when significant changes occur.

Data Analysis and Ratings

The results of the data collection effort may indicate areas where the notifications and communications element of the emergency management program does not meet DOE order requirements, EMG Volume VI criteria, EMG guidance, or other best practices. The impact of any deficiency on the site's emergency response capability must be considered in rating this program element.

Chapter 3 of this inspectors guide provides general guidance in analyzing the data and rating program elements.

Potential Impacts on Other Program Elements

Analysis of notifications and communications may identify impacts to/from other emergency management program elements. Examples of the relationship between notifications and communications to other program elements include:

Hazards surveys and EPHAs. The extent and impacts of hazardous material releases define the need for systems, procedures, and staff to carry out notifications in a timely manner. The level of sophistication and redundancy in communications systems should be directly related to the potential need for performing prompt notification to co-located workers on site, and timely notifications specified by the order to offsite jurisdictions together with requests for assistance.

Categorization/classification. Prompt and accurate notifications of event categorization and classification are essential to mitigate consequences, activate EROs and facilities (e.g., EOCs), recall essential personnel, and notify offsite agencies responsible for protecting the health and safety of the public.

Protective actions and re-entry. Prompt and accurate communications and notifications to onsite workers and offsite agencies responsible for protecting the health and safety of the public are essential to ensure that protective actions can be implemented in time to be effective.

ERO. A timely, reliable, and accurate communications system is essential for notifications, and supplies the framework for conducting response operations by the ERO. Onsite notification messages to facility personnel should support activation of the facility ERO. Effective communications methods must be established between event scene responders, emergency managers, and response facilities.

Offsite response interfaces. Prompt and accurate communications and notifications to offsite agencies responsible for protecting the health and safety of the public are essential to ensure that protective actions can be implemented in time to be effective.

EPI. Prompt and accurate notifications are essential to the operation of the EPI program and provide the means for a facility to coordinate the timely exchange of information with other organizations. This coordination is critical to prevent dissemination of confusing, conflicting, and erroneous information during emergencies. A timely, reliable, and accurate communications system is essential for notifications to the JIC.

Training, drills, and exercises. Weaknesses noted in the ability to collect and transmit event information in a timely manner could be indicative of weaknesses in the methods and/or frequency of training personnel and critiquing their performance. In particular, the absence of team training with EOC team members will likely result in ineffective response because members do not understand each other's roles, responsibilities, expectations, personalities, and capabilities. Often an Emergency Director will employ support in collecting and recording data, and transmitting notification forms. The support should be a trained ERO member. Common titles for this support position include Notification Specialist, Communication Specialist, or Recorder.

This page is intentionally left blank.

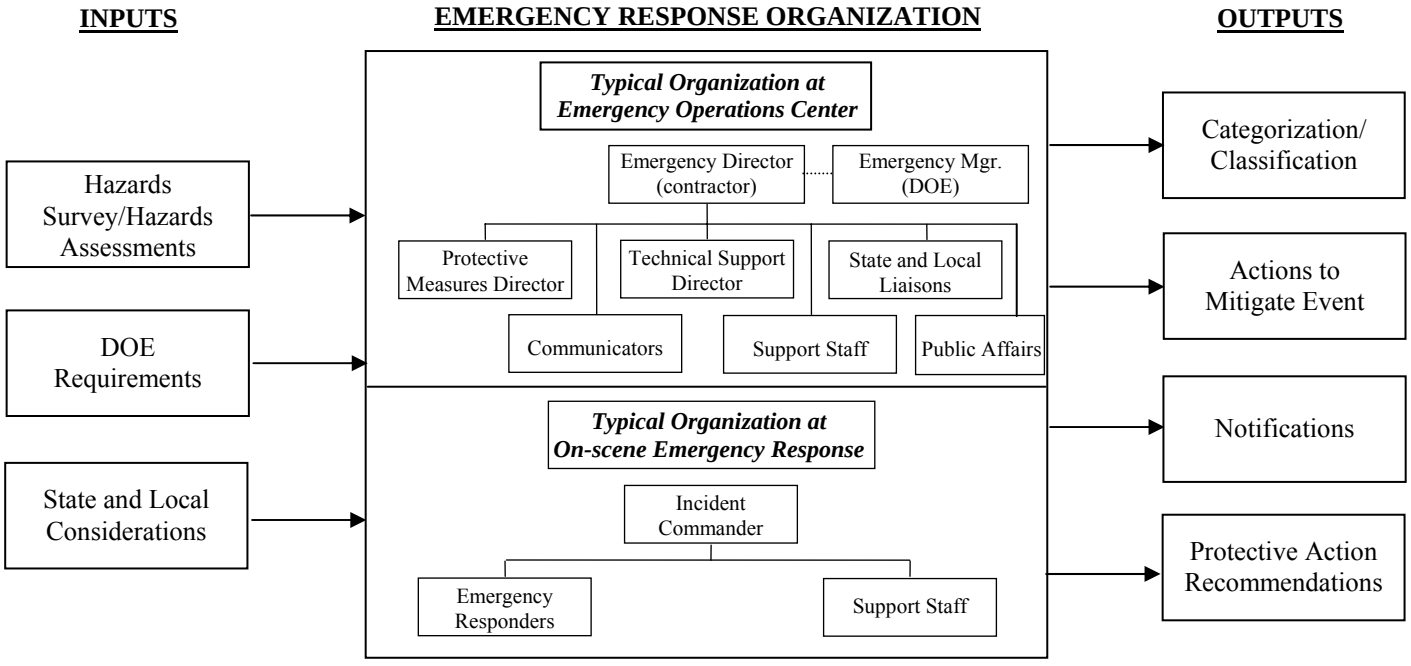
Section 2F

EMERGENCY RESPONSE ORGANIZATION

Contents

General Information

The size, composition, and functions of the site ERO will be based upon the hazards present at the site and the environs around the site. For example, the more hazards at the site, the larger and more sophisticated the ERO will be. All facilities are required to have an operational emergency base program. Sites with significant quantities of hazardous materials are also required to have an operational emergency hazardous material program. Primary outputs of the ERO are the notifications to site workers, state, tribal nations and local governments as to the severity of the event (i.e., classification) and protective actions that should be implemented to protect the site workers and the public. Furthermore, the ERO is responsible for mitigating the consequences of the event. Typically the ERO will consist of on-scene emergency responders and a supporting cadre of emergency responders located at a technical support center and/or EOC. The figure below illustrates this concept and provides an indication of the typical makeup of some parts of the ERO.



The objective of the inspector's review is to evaluate whether the ERO is adequately staffed and has adequate tools (procedures and equipment) to perform its duties.

Relevant Site Documents

The following is a list of site documents that the inspector may choose to review prior to or during the performance of onsite data collection.

- **Emergency plan –** provides an overview of site operations, facilities on the site and the hazards present, and a description of the ERO.
- **Emergency plan implementing procedures –** provide the "how" for the implementation of the emergency plan requirements.
- **ERO roster –** provides the names of the persons assigned to ERO positions, including alternates.
- **EPHA(s) –** identifies the hazards resident at the site/facility. This information provides the emergency planners the information necessary to develop the ERO, the emergency plan, and emergency plan implementing procedures.

Common Deficiencies/Potential Concerns

This section identifies areas where concerns or deficiencies have been identified in previous inspections. These are grouped by the ISM guiding principles or core functions that are most applicable. By reviewing this information before gathering data, inspectors can be aware of these deficiencies and concerns during interviews, walkdowns, and other data gathering activities. However, the inspector should not simply focus his/her evaluation on whether these deficiencies exist at the site being evaluated, but rather should consider all aspects of this emergency management program element (including strengths and weaknesses).

Clear Roles and Responsibilities

The following are examples of areas that SP-43 has identified where roles and responsibilities could have been better defined.

- The ERO chain of command between the emergency director and the incident commander is not fully documented. This may cause delay and/or confusion in responding to and mitigating an event.
- The ERO roles and responsibilities during off normal hours are not clearly defined.
- The on-scene command roles and responsibilities under unified command are not clearly defined.
- The command structure and roles and responsibilities for an event involving an Office of Secure Transportation shipment on a DOE/NNSA site are not clearly defined, where applicable.
- ERO staffing and organization are not analyzed and updated when changes occur in the hazards surveys and assessments. This may cause either over- or understaffing of key positions.

Competence Commensurate with Responsibilities

At some sites, the ERO does not have sufficient trained and knowledgeable personnel assigned to primary and alternate positions. This impacts effective mitigation of the event and hinders 24-hour or extended operations. Other deficiencies related to ERO competence that have been identified include:

- ERO personnel are not adequately trained and have not been adequately tested in drills and exercises. This results in an ERO that is not proficient in conducting emergency operations.

- Backshift staff are reluctant or unable to perform categorization, classification, and notification duties for postulated events.

- Sometimes, during off-normal hours, ERO functions are dependant on offsite personnel who do not have all the necessary tools readily available to facilitate an effective response.

Data Collection Activities

The following data collection activities have been found to be beneficial in evaluating this emergency management program element. The inspector should choose which of the activities to perform based upon the focus of the evaluation and the site-specific emergency management program.

Document Reviews

A. Review the hazardous material program emergency plan to determine whether:

- A single individual is identified as being responsible for the overall response based on actual or potential emergency conditions.

- The site chain of command during an emergency, including the division of authority and responsibility between the incident commander and the ERO emergency director, is documented. For each position, check to see whether the roles, responsibilities, and authorities are documented.

- It provides criteria for determining quickly whether an event is an operational emergency, and the person(s) responsible for this determination is identified.

- Each organization in the ERO has its functions, authorities, and responsibilities documented in the emergency plan.

- The ERO structure is consistent with the hazards at the site. For example, if radiation is a hazard, the ERO should have radiological decontamination and field monitoring capabilities.

- The personnel (positions) responsible for both initiating and receiving notifications to onsite and offsite agencies/organizations are identified.

- It identifies the person(s) or position(s) responsible for determining protective actions, as well as the person or position to which accountability is reported.

- The number of personnel, organizations, or offsite assets responsible for emergency medical services is identified. If the organization is offsite, a mutual aid agreement or equivalent should be documented.

- The person or organization responsible for providing information to the media during the event is documented.

- The responsibilities and authorities for re-entry are documented.

- The responsibility to authorize response personnel to receive exposures in excess of site limits is documented.

- The relationship of the ERO with other onsite response elements, DOE/NNSA field/operations office, DOE Headquarters, and offsite response agencies/organizations (state, local, tribal) is identified.

- Control of operations, monitoring, and repair teams is clearly vested in a single emergency facility or clearly defined between multiple emergency facilities (EOC, JIC, control centers, communications centers, etc.).

- The state and local governments' and tribal nations' emergency response roles and/or regulatory control responsibilities are documented in mutual aid agreements.

- The decision-maker for terminating the event and determining the criteria for resumption of normal operations is indicated.

- The responsibilities for shutdown of operations are documented.
- The communications and information flow between the command and control organization and emergency medical support is documented.
- The communications, information flow, and authorities between the command and control organization and the JIC or equivalent are documented.
- The organization responsible for the administration of the emergency plan is documented.

B. Review the ERO structure with staffing rosters. At least one alternate for each position should be indicated.

Interviews

C. Interview a site emergency director to evaluate his/her understanding of the ERO and its functions and responsibilities. Determine whether a single individual is in charge of the overall response and has the necessary authority to use necessary resources to mitigate the emergency.

D. Interview an incident commander to evaluate his/her understanding of the ERO and its functions and responsibilities. In particular, evaluate his/her understanding of command under unified command under varying circumstances.

Data Analysis and Ratings

The results of the data collection effort may indicate areas where the ERO element of the emergency management program does not meet DOE order requirements, EMG Volume VI criteria, EMG guidance, or other best practices. The impact of any deficiency on the capability of the ERO must be considered in evaluating and rating this program element.

Chapter 3 of this inspectors guide provides general guidance in analyzing the data and rating program elements.

Potential Impacts on Other Program Elements

Analysis of the ERO may identify impacts to/from other emergency management program elements. Examples of the relationship between the ERO and other program elements are:

Hazards surveys and EPHA(s). Analysis of potential facility events (the emergency scenarios) should lead planners to determine how many, and of what qualifications, the augmenting ERO staff should be.

Protective actions and re-entry. The ERO must identify, initiate, and coordinate protective actions for workers on site and identify protective action recommendations for offsite agencies to implement to protect the public.

Offsite response interfaces. The ERO interfaces with agencies and organizations responsible for protecting the public and the environment within the vicinity of the facility/site. The ERO must have information available on all necessary local, state, and Federal interfaces to determine authorities, responsibilities, notification, and procedures necessary in the event of an emergency at the DOE/NNSA facility. The ERO must be able to effectively use all services that may be needed to respond to postulated accident conditions.

Emergency facilities and equipment. To be fully effective, the ERO must have a work space that is properly equipped to provide for communications, safety, and the tools necessary to perform all required functions.

Training and drills. Training supported by a drill program has broad, crosscutting impacts on the proficiency of the ERO to effectively prepare for and mitigate an event.

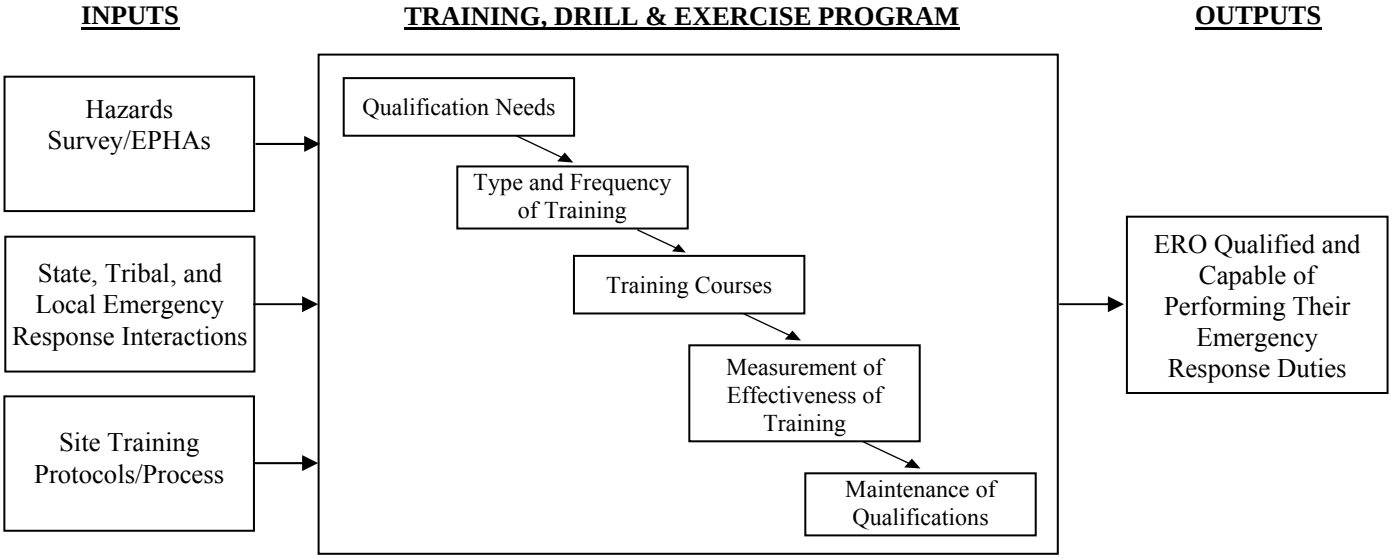
Section 2G

TRAINING, DRILLS, AND EXERCISES

Contents

General Information

The training, drills, and exercise element of the emergency management program includes the process used to determine what training is necessary for the ERO, the presentation of that training, and the processes used to measure the effectiveness of training to ensure that all ERO personnel are capable of performing assigned tasks. The hazards surveys and EPHAs provide a basis for the type of training that is needed. In addition, the site needs to consider what training is needed for offsite personnel (e.g., medical personnel and fire fighters) who may support the site during an emergency. The outcome of the training, drills, and exercise program should be ERO personnel who are capable of performing their emergency response duties. The figure below illustrates these concepts.



The exercise element of the emergency management program is used to test all other program elements. It is used to validate program components or identify weaknesses for correction to continuously drive program improvements. It is similar to a drill in that it is a hands-on demonstration of response to a simulated emergency but differs significantly in conduct. Exercise conduct prohibits many of the teaching aspects of a drill, such as coaching and correcting inappropriate performance while in play, and unsatisfactory performance of evaluated objectives results in findings. Disposition of exercise findings should be executed through a formal issues management program.

Relevant Site Documents

The following is a list of site documents that the inspector may choose to review before or during the performance of onsite data collection.

- **Emergency plan –** should provide a description of the training, drill, and exercise programs.
- **ERAP –** should provide an annual summary of training and drills that have been accomplished. The ERAP also details any waivers of training that have been approved due to safety and other hazards.
- **Training plan or administration document –** provides the administration requirements for the training of each team within the ERO (EOC cadre, consequence assessment team, etc.); provides the frequency of the drills; sets criteria for successful completion of training; describes the annual refresher training; specifies training waiver/equivalency policy; provides for the administrative requirements to provide training and record the results; and details the instructor requirements.
- **ERO rosters –** identify the persons assigned to each position.
- **Training schedules –** provide the site/facility annual training schedule for training classes, exercises, and drills. Review prior two years and current year schedules.
- **Training, drill, and exercise logs/reports** – provide records of completed training activities and gives insight to a site's ability to maintain their training schedule.
- **Training records –** document the training completed for each person assigned to an ERO position.
- **Required reading program** – provides applicable reading assignments and documents completed training. It could take the form of paper records, e-mail, or be web-based.
- **Annual refresher training** - provides periodic, new, reinforcement, or lessons-learned training.
- **Lessons-learned program** – provides emergency management related lessons learned from a global perspective (complex and industry wide). Typically managed by a site lessons-learned coordinator.
- **Qualification criteria** – provide the set of training, experience, and evaluation needed to staff certain ERO positions.
- **Training rosters** – record attendance in specific training classes.
- **Training courseware** – includes instructor guides and notes, lesson plans, student handouts, learning objectives, tests, computer-based training, on-the-job training documents, and other training-related materials used to present and document the training course.
- **Drill packages –** identify the purpose, scope, and training objectives.

- **Drill rosters –** records of participation in specific drills.

- **Exercise manual –** describes the site's program requirements for developing and administering exercises.

- **Exercise packages** – exercise documents under development or exercise records from exercises performed.

- **Exercise reports** – reports to management describing the scenario and results.

- **Exercise schedules** – a multi-year plan demonstrating how the site manages exercise to ensure evaluation of all emergency management program elements on a periodic basis.

- **Exercise findings and corrective action plans –** weaknesses identified during exercise performance and associated corrective actions. They should be tracked to completion.

Common Deficiencies/Potential Concerns

This section identifies areas where concerns or deficiencies have been identified in previous inspections. These are grouped by the ISM guiding principles or core functions that are most applicable. By reviewing this information before gathering data, inspectors can be aware of these deficiencies and concerns during interviews, walk-downs, and other data gathering activities. However, the inspector should not simply focus his/her evaluation on whether these deficiencies exist at the site being evaluated, but rather should consider all aspects of this emergency management program element (including strengths and weaknesses).

Line Management Responsibility for Safety/Clear Roles and Responsibilities

- Some sites, in particular those with multiple contractors (prime and subcontractors), have not adequately supported the emergency management training function.

- Some sites have not ensured that effective corrective actions are implemented for exercise findings.

- Some sites have not assigned responsibility and provided training to enable personnel to be effectively sheltered by closing doors and windows and securing ventilation systems.

Identification of Safety Standards and Requirements

SP-43 has sometimes found that training requirements are not defined or met. Examples include:

- Minimum training and drill requirements have not been defined for all ERO members.

- Criteria for successful completion of training are not defined.

- Performance evaluations of each ERO member are not performed (i.e., demonstration of competency prior to being added to ERO roster).

- ERO members are on the ERO roster when training deficiencies exist.

- Team training is not provided.

- Training waivers are granted without appropriate justification.

- Training on ERO position-specific tasks is not provided or is incomplete.

- Lessons-learned programs are not integrated with the ERO training program.

- Minimum training prerequisites for ERO position assignments are not documented. For example, field monitoring team members may require training as an industrial hygienist or health physicist to fill

the position, or emergency medical technicians may require state certification.

- Training recommendations for offsite emergency support organizations, such as hospitals and mutual aid assets, are not documented.
- Training requirements for transportation events have not been documented.
- No annual refresher training is specified.
- Training records are incomplete.
- Lesson plans and training materials are not formally documented and maintained.
- Training requirements are not consistent with the site hazards. Changes in site hazards are frequently not communicated to the training organization for evaluation of additional training requirements.
- New plans and procedures are implemented before the development and implementation of training.
- New plans and procedures are provided with an implementation date that provides insufficient time to develop training.
- Matrices are not developed identifying the training necessary for each position.
- Training is not formally reviewed annually.
- Student feedback is infrequently used to update the courseware.
- Drills are not used as a source of lessons learned or as part of a feedback and improvement program.
- Drill packages are incomplete. Frequently, they are missing the objectives to be demonstrated and an evaluation component.
- Student feedback, actual events, and exercise results are not used to update the drill packages.

SP-43 has sometimes found that exercise requirements are not defined or met. Examples include:

- Exercise findings are not managed using an effective tracking and closure process.
- The finding closure process does not have a mechanism to validate the effectiveness of implemented corrective actions.
- Exercises are not managed to ensure that all emergency management program elements are evaluated over a multi-year period.
- Exercise records are not kept for future exercise planning.
- Exercise scenarios are developed that do not test existing program elements.
- Evaluation criteria are not measurable or do not support evaluation of objectives.

Competence Commensurate with Responsibilities

The following deficiencies have been noted in this area.

- Alternates assigned to the ERO generally receive less training than primary personnel do.
- Persons assigned as alternates are less likely to participate in drills to maintain proficiency.
- ERO members receive credit for annual drill participation during a drill or real event when they did not conduct any duties that would maintain their proficiency. Examples include: credit given because the EOC card

reader recorded a member entering the EOC who never assumed a position; credit given because an ERO member evaluated another member during a drill or exercise, but the evaluated position was different from the evaluator's roster position.

- New ERO members are assigned without notification of the emergency management training organization, resulting in untrained persons staffing ERO positions.
- ERO members are identified with training deficiencies, but mechanisms are not in place to remove them from the roster or ensure that training is completed.
- Changes to plans, procedures, computer software, and/or ERO position workstations are made without notifying users or establishing training needs.
- Performance weaknesses are observed because periodic training is nonexistent or too infrequent.
- Scheduled drills are not completed or are too infrequent to allow all ERO members to participate annually.
- Documentation on both onsite and offsite instructors is not maintained to include qualifications, experience, and courses they are authorized to teach.
- Exercise evaluators are not familiar with their evaluation criteria.
- Exercise controllers have inappropriate interactions with players, such as providing unearned information, performing player functions, coaching, and not providing appropriate contingency messages.
- Exercise hot washes and critiques do not foster critical assessments of program elements.
- Exercise controllers sometimes do not enforce safety rules established for the exercise.

Data Collection Activities

The following data collection activities have been found to be beneficial in evaluating this emergency management program element. The inspector should choose which of the activities to perform based upon the focus of the evaluation and the site-specific emergency management program. Be aware that personnel may fill ERO positions from DOE and multiple contractor companies. The training and qualification programs for these personnel may be separate, the same, or a blend of programs developed by the different organizations.

Training Program Document Review and Evaluation

A. Review the emergency plan to determine whether it provides:

- Training requirements for key emergency management positions and response teams
- Examination requirements
- Record-keeping requirements to verify that training requirements are met
- Description of the training available and required for visitors, vendors, and subcontractors
- Offsite training support
- Instructor training and qualifications
- A drill program description, including evaluation and corrective actions.

B. Review documentation that demonstrates that the training program is reviewed and updated annually or as required based on emergency management program changes.

C. Determine whether the standards for successful completion of each training activity (including retraining criteria) are documented.

D. Determine whether the training goals, organizational responsibilities, resources, and planned activities are clearly defined.

E. Review the ERAP for the following:

- **Hazardous materials program:** Review the list of the training programs designated to meet the individual and specialized needs of the ERO. Review the training plans to ensure that they meet what was documented in the emergency plan.

- **Findings and corrective actions:** Review this section of the ERAP. Identify training issues and check to see whether they have been addressed in the training program review and update.

F. Review the site/facility training matrix (this is normally located in either the Emergency Plan, Chapter 12, or in the Training and Drills Plan or Manual). If the matrix is not developed, request a copy of the training requirements document used to develop the emergency management training program.

G. Determine whether annual refresher training in notification procedures for hazardous material releases is adequately provided to operators, supervisors, and workers with responsibility for monitoring site conditions.

H. Review the training requirements for each key ERO position to verify they provide for training on the site's emergency response concept of operation and position-specific task training. Key positions may include the incident commander, emergency director, senior person within each ERO organization (fire chief, security captain, etc.), and various critical positions within the ERO (plume modeler, recovery manager, etc.).

I. Review the training records of both the primary and alternate persons assigned to each key position. Use 100 percent inspections for smaller EROs or sampling techniques for larger EROs to record the level of training accomplished by non-key positions, including alternates.

J. Evaluate the process used to track ERO training requirements, notify members of impending or existing training deficiencies, schedule needed training, and remove or place an individual on the ERO roster.

Training Course and Instruction Document Review and Evaluation

The intent of this review is to identify the process for development and presentation of training courses, instructor qualifications, and course quality control.

K. Review the procedure change control process to determine whether it links changes and revisions to a training needs analysis.

L. Review the emergency plan or training and drills administrative document to identify the qualifications of instructors.

- Request instructors' qualification records or personnel records that demonstrate whether they have attended the requisite instructor training, "been grandfathered," or received a waiver due to experience.

- Request the qualifications of instructors for offsite (contracted) training. Compare the qualifications with the site requirements.

M. Review the emergency plan or training and drills administrative document to identify site/facility requirements for training material development.

- Check for a formalized process for the development of training.

- Verify that a systematic approach is taken to identify training needs. This process should ensure that all position-specific tasks are identified and evaluated for appropriate training settings and frequency, to maintain proficiency.

- Evaluate established training settings to verify appropriate use of instructor-led training, self-study, required reading, and computer-based and hands-on training (on-the-job or drills) sessions.

- Determine whether the site provides opportunities for inter- and intra-team training.

- Determine whether a person's qualifications are current for the position and on-the-job training he/she is supervising.

- Check for the quality control of information contained in the training. This should include accurately identifying the hazards documented in the hazards surveys and assessments.

N. Request copies of the site/facility training courses, including General Employee Training and courseware that is made available to offsite authorities and those having mutual aid agreements with the site. Ensure that each course is up to date, provides the appropriate content and detail, and specifies:

- Target audience
- Purpose/scope
- Training objectives
- Student handouts
- Instructor notes
- Examinations.

O. Request copies of the student feedback or course critiques. Check the use of the critiques and feedback mechanisms during the annual review and update.

Drill Program Document Review, Walkdowns, and Evaluation

P. Review a representative sample of drill packages. Packages requested should include:

- Building evacuation and/or sheltering in place

- Personnel accountability

- Protective action decision-making

- Functional drills to test training of a specific function (notification, medical response, mutual aid)

- Integrated drills to test two or more functions/organizations.

Q. Review the participants' critique sheets and after-action/lessons-learned reports from drills.

R. Review a sample of drill packages to verify that:

- They contain a purpose, scope, and objectives to be demonstrated.

- The expected performance is in accordance with the site/facility emergency plan and procedures.

- The data accurately reflects the results of hazards surveys and assessments.

Exercise Program Review

Exercise programs can be evaluated through a program document review or through observation of an exercise, each having their own inherent limitations. During a program review the focus is on the site's ability to develop exercises using realistic scenarios that will test all emergency management program elements over a multi-year period, identify

strengths and weaknesses, and ultimately provide continuous program improvements. For a program review the inspector should take the following approach.

S. Review the emergency plan to become familiar with the site exercise program and its consistency with DOE order requirements and guidance.

T. Review the exercise manual to ensure that the manual addresses the following:

- That exercises packages are required to fully document exercises by including specific exercise objectives, scope, scenario narratives, participants, simulations, time lines, injects, technical data, safety and security provisions, controller and evaluator instructions, and evaluation criteria.
- Provides definitions and disposition requirements for the various observation types used in the exercise program – strengths, weaknesses, findings, recommendations, observations, etc.
- Describes the process used for determining whether an objective is met/not met when an objective with multiple criteria is observed with mixed rating results for the criteria.
- Specifies requirements for conduct of controllers, evaluators, observers, hot washes, and critiques.
- Specifies how to place administrative holds or terminate exercises.
- Places limits on performing duties as a controller and evaluator.
- Requires exercise training for all participants.
- Requires personnel assigned to oversee safety during an exercise and specifies safety training to all participants.
- Specifies exercise reporting requirements.
- Specifies corrective action tracking and closure requirements.

U. Review recent exercise packages to determine whether:

- Packages adhere to the site's exercise manual requirements, particularly where there are findings and weaknesses requiring corrective actions.
- Exercises are fully documented by including specific exercise objectives, scope, scenario narratives, participants, simulations, time lines, injects, technical data, safety and security provisions, controller and evaluator instructions, and evaluation criteria.
- They include objectives and criteria for each organization within the scope of the exercise.
- Objectives and criteria are measurable.
- They contain examples where new plans and procedures or recently established program improvements were validated.
- Scenario material is consistent with the set of exercise objectives and supports a demonstration of each objective.
- Simulations pertaining to participants and exercise activities are clearly identified.
- Scenario material reflects facility-specific hazards, correlates technically with the facility EPHA, and is technically accurate in terms of operations and radiological, chemical, and meteorological data.
- They contain provisions for safety, security, and public/media interface that are clearly identified.
- They contain attendance records of all required training and briefings.

V. Review exercise reports to determine whether:

- The exercise reports accurately reflect the conditions recorded in the completed exercise package. An overall rating is specified.
- Findings are correlated to applicable objectives.
- Recommendations for corrective actions are provided.

W. Review exercise schedules to make the following determinations.

- Review the site's master exercise schedule and assess its effectiveness in evaluating all the emergency management program elements over a 4- to 6-year period.
- Determine whether the site rotates appropriately among site facilities in their exercises.
- Determine whether the site has conducted exercises as scheduled.
- Determine whether each facility with the potential for a classifiable operational emergency is subjected to an annual drill or exercise.
- Determine whether site-level response organization elements and resources participate in a minimum of one exercise annually and whether the exercise is designed to test and demonstrate the site's integrated response capabilities.
- Determine whether offsite supporting, and potentially affected, organizations are invited to participate in an exercise at least every three years.

X. Review exercise findings and corrective action plans and evaluate their effectiveness in making program improvements.

- Review tracking databases to determine whether all items from the most recent exercises requiring corrective actions are contained therein.
- Review methods used to manage corrective actions. Ensure that there is appropriate notification, assignment, scheduling, and follow-up on corrective actions.
- Assess the site's ability to complete corrective actions as scheduled and whether there is an escalation process when items become delinquent.
- Review a sample of corrective action closure packages and/or activities and judge their adequacy for correcting program weaknesses.
- Determine whether there is a feedback mechanism to the next exercise to validate closed corrective actions.

Training, Drill, and Exercise Program Review Interviews

Interviews are conducted with key personnel involved in the emergency management training, drill, and exercise program to exchange information regarding the topics described above. Key personnel include the manager responsible for the emergency management program, training mangers or coordinators, drill and exercise coordinators, records management personnel, and instructors.

Facility Walkdown

Y. Facilities of interest for walkdowns include classrooms, simulators, mockups, and simulation cells. These should be evaluated for their training conduciveness, such as size, solitude, equipment, and realism.

Exercise Evaluation

During an exercise evaluation, while the primary focus is typically on the players' response, an assessment can be made of important aspects of the exercise program not observable during a program review. To the extent possible, review the exercise package in the same manner as a program review. Additionally, evaluate the following aspects that are only observable during an exercise evaluation.

Z. Attend a sample of player, evaluator, controller, and observer training and briefings. Determine whether:

- Instructors are well prepared to provide the necessary training.
- The scope of training provides information on the scenario; simulations; environmental, safety, and security issues; administrative holds and exercise termination methods; and communications for players, controllers, and evaluators to the appropriate target audience.
- Scenarios are not divulged to players.

AA. During the exercise, evaluate the following aspects regarding the conduct of the exercise.

- The evaluator organization is sufficiently staffed to evaluate demonstration of all objectives and key decisions/actions of responders.
- Evaluator familiarity with evaluation criteria.
- Evaluators display familiarity with respective responder organizations, functions, procedures, and anticipated responder decisions/actions.
- Procedures are evaluated with respect to their use by the responders; specifically, the adequacy of procedure content for the tasks performed.
- Controllers provide injects as designed or instructed by the senior controller.
- Controllers do not coach, play, provide unearned information, or otherwise lead players.
- Controllers enforce all safety, security, environmental, or other rules established for the exercise.
- The use of controllers as evaluators is minimized and is appropriate.
- Communication language and equipment used by players, controllers, or evaluators is appropriate.
- The use of holds and methods of exercise termination is consistent with the training provided.
- Training was adequate in that no situations occurred that should have been covered in training.
- The exercise was conducted safely; there were no injuries; active safety personnel were available; holds and corrective actions were appropriate; and all participants were provided with adequate provisions and protective equipment.
- The exercise maximized scenario realism within safety and reasonable budgetary restraints.

BB. Following the exercise, evaluate the following post-exercise activities.

- Attend a hot wash meeting and evaluate attendance and participation by players, controllers, and evaluators; and determine whether critical evaluations took place.

- Attend the exercise critique and evaluate the participation; determine whether it was well attended by key personnel from hot washes, included critical evaluations, and reflective of hot wash discussions. Determine whether a recorder is documenting critique minutes for feedback and improvement and management reporting purposes.

Data Analysis and Ratings

The results of the data collection effort may indicate areas where the protective actions and re-entry element of the emergency management program does not meet DOE order requirements, EMG Volume VI criteria, EMG guidance, or other best practices. The impact of any deficiency on the site's emergency response capability must be considered in evaluating and rating this program element.

Chapter 3 of this inspectors guide provides general guidance in analyzing the data and rating program elements.

Potential Impacts on Other Program Elements

Training supported by a drill program has broad crosscutting impacts on the proficiency of the ERO in effectively preparing for and mitigating an event. Scenarios from the DSA and the EPHA(s) define necessary response actions, which in turn provide the basis for determination of all tasks emergency responders must be capable of performing. Analysis of training and drills will likely identify impacts to/from other emergency management program elements, such as the proficiency with which the ERO performs categorization/classification, protective actions and re-entry, notifications and communications, consequence assessment, and EPI.

Likewise, the exercise program has broad crosscutting impacts because it should be designed to test all elements of the emergency management program over a multi-year period. Exercises should be validating effective emergency response capabilities or identifying program weaknesses and promoting program improvements. Additionally, exercises provide all participants with experience most closely resembling an actual emergency.

This page is intentionally left blank.

Section 2H

EMERGENCY PUBLIC INFORMATION

Contents

General Information

Communication with the Federal, state, tribal nation(s), and local government officials, as well as the general public, is important to provide an awareness of emergency conditions and actions being taken to respond to the emergency and to protect workers and the public. This section provides guidance for inspectors reviewing this aspect of the emergency management program. In particular, this section provides guidance for the review of:

1) Information provided to the public regarding preparations made for responding to emergencies (public education).

2) Plans and capabilities for providing information to the public during an emergency.

3) Fundamental EPI processes, such as development and approval of news releases, rumor control, and coordination of information in the JIC.

This section does not address assessment of notifications made by Federal, state, tribal nation, and local government response organizations to prompt response actions.

The figure on the following page provides a schematic model of the EPI emergency management program element, including lines of communication that may be expected during a response to an event.

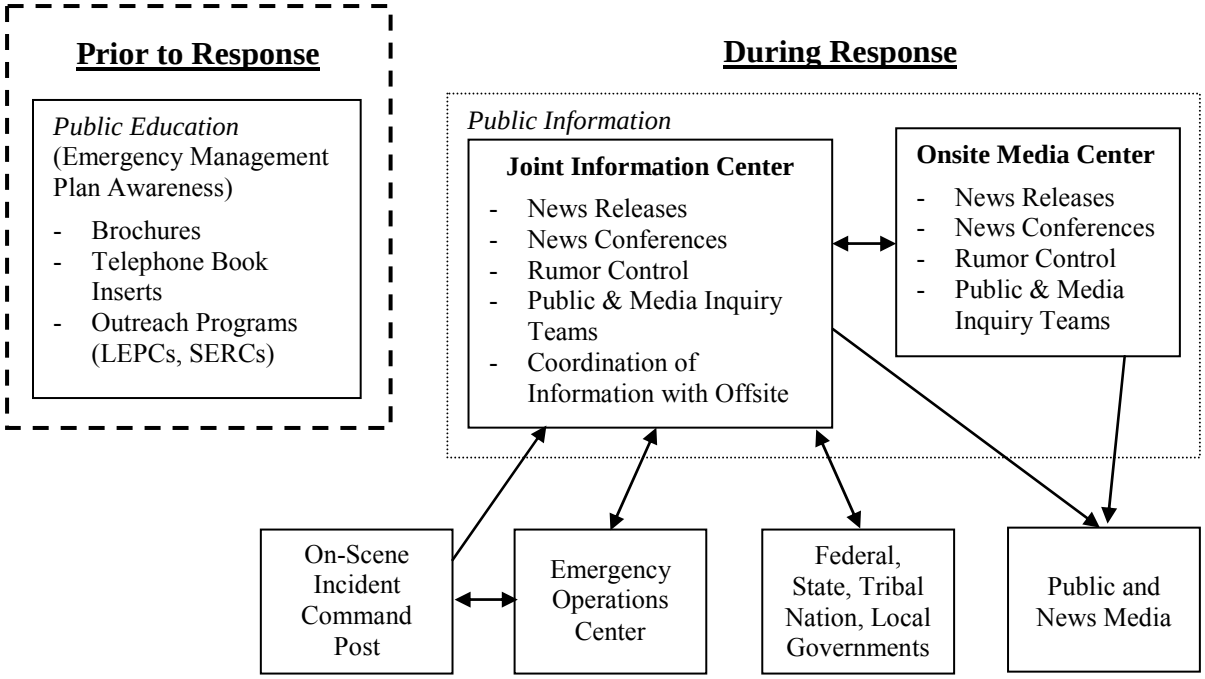
Relevant Site Documents

The following is a list of site documents that the inspector may choose to review before or during performance of the onsite data collection.

- **DOE/NNSA and site/facility emergency management plans and transportation emergency plan –** The inspector should review the ERO and EPI portions of these plans where applicable to comprehend the EPI plan bases and processes, and how the initial and ongoing provision of emergency information will be accomplished.

EPI plan(s) and procedures for the site – these documents provide the basis of the site EPI program and describe the operations, processes, tools, roles, responsibilities, facilities, equipment, and supplies used by the EPI cadre. The plans and procedures should also include fully developed implementing mechanisms of how the processes interrelate and interact. The site EPI plan may be a stand-alone plan, an individual appendix to the site/facility emergency management plan, or an integrated DOE/NNSA and contractor plan. If the EPI plan does not include the JIC component, obtain the JIC plan, procedures, and checklists/job aids.

EMERGENCY PUBLIC INFORMATION



  - EPI procedures/checklists/job aids support the EPI plan, and should detail steps taken by each member of the EPI cadre to fulfill their role and responsibilities.

  - The checklists/job aids for any ERO position included in the news release development and approval process should detail their respective responsibilities.

- **Local/state JIC plans** – may be reviewed to provide the inspector with the planning basis and interface process of local or state EPI operations, facilities, equipment, and supplies used by the JIC cadre. These plans may include a description of how offsite and onsite EPI operations and the JIC interrelate and interact and the expectations of each organization.

- **DOE/NNSA site office emergency management plan.** If an integrated DOE/NNSA/site EPI plan does not exist, then components of the site office emergency plan should detail the coordination of EPI between the DOE/NNSA site office and the site/facility. The plan should also include EPI support to the site from other DOE/NNSA offices, including roles and responsibilities, interfaces, and programmatic actions in support of the EPI plan.

- **Memoranda of understanding or letters of agreement** – agreements among NNSA/DOE, the site, local jurisdictions, and the state relating to the use of an onsite facility (onsite media relations center) and an offsite facility used for the JIC, equipment, and support staff committed in support of EPI and the JIC. These

memoranda of understanding/letters of agreement should include all EPI commitments made to offsite organizations in support of EPI activities.

- **Maps of the JIC facility and onsite media center** – maps and descriptions of site facilities should include the location and layout of facility space, equipment and supplies, communication lines, and other information resources delineated in the EPI plan.

- **Regional/local standards, requirements, and/or protocols** – local standards required and applicable to the respective site.

- **Training documents** – Training should include detailed roles and responsibilities of each member of the EPI cadre on site and the JIC cadre; notification and activation of the cadre; interfaces with offsite organizations; the approval process for news releases; detailed information flow between the EOC/JIC/offsite public information officials; news conference coordination and production; media monitoring; public and media inquiry teams flow; and the rumor control process, from the criteria used to detect misinformation/rumors to the methodology for correction of the misinformation.

- **Exercise evaluations** – document the performance of the EPI element during an exercise.

- **ERAP** – provides status of the EPI issues and corrective actions identified by program and exercise evaluations.

- **Corrective action plans** – delineate each EPI program element requiring corrective action.

- **Internal or self-assessments** – sites perform periodic self-assessments of their emergency management program, or any component thereof. These assessments may identify program and performance weaknesses and negative trends.

- **State and/or local evaluations –** after a full- or partial-scale exercise or performance test, offsite organizations may provide their evaluation of the onsite EPI program. The document may be formatted as an evaluation report or as a lessons-learned report.

- **Public education materials** – public education materials may include but are not limited to:

  - Information brochure/pamphlet for public visits: includes information about the site and its operation and purpose.

  - Materials provided to, developed by, or distributed by the local emergency planning committee in support of site operations or emergency response. These materials inform the public about emergency response planning and should include the alert notification process, emergency broadcast system/ emergency alert system, emergency planning areas/zones, protective actions, evacuation routes, and emergency numbers for help.

  - Local telephone book emergency response information: this usually takes the form of an advertisement placed in the telephone book detailing emergency response actions to be taken by the public in the event of an emergency. The information includes a map of the area, including emergency planning areas/zones, evacuation routes, sheltering procedures, other protective action procedures, location of the American Red Cross, congregate care, and an emergency telephone number.

- Local hotel/motel/campsite emergency response information: same as the telephone book but provided to overnight facilities for their guests.

- Media kit: made available to all members of the media during emergency response training, site tours, and upon arrival at the JIC. The kits should contain up-to-date information about the site operations, location, history, emergency response planning, emergency planning areas/zones, local community response activities, and technical information regarding response equipment and actions.

- Public service announcements: public announcements dealing with the site and/or emergency planning area.

Common Deficiencies/Potential Concerns

This section identifies areas where concerns or deficiencies have been identified in previous inspections. These are grouped by the ISM guiding principles or core functions that are most applicable. By reviewing this information before gathering data, inspectors can be aware of these deficiencies and concerns during interviews, walkdowns, and other data gathering activities. However, the inspector should not simply focus his/her evaluation on whether these deficiencies exist at the site being evaluated, but rather should consider all aspects of this emergency management program element (including strengths and weaknesses).

Competence Commensurate with Responsibilities

At some sites, ERO personnel responsible for the dissemination of information to the public have not received comprehensive training on the importance of relaying timely and accurate information and the process for accomplishing this task. Some specific proficiency problems that have been identified include:

- Site emergency managers do not understand the importance/relevance of timely, candid, and accurate information to the public.

- The EPI cadre does not participate with other members of the ERO in appropriate drills and exercises. There is inadequate participation by the EPI cadre and its components during exercise development, exercise activities, and drills. Participation should include public affairs in the EOC, telephone banks, media monitoring, JIC decision-making, and information flow support.

- Public affairs professionals believe that the plans and procedures they employ daily for routine public affairs issues are the same as those required during an emergency.

- Initial news releases are not issued within an hour following an event.

- News releases are not effectively coordinated when multiple news release venues are involved.

- News releases routinely contain inaccurate and/or outdated information.

- Technical advisors are not trained to use "plain English" during news conferences.

- The EPI cadre lacks understanding of vital EPI processes, including:

  - Approval process: how and who is responsible for this multi-step process and coordination

  - Rumor control: how rumors are identified, tracked, and corrected.

- The EPI cadre does not understand or have an appreciation for onsite hazards and their potential effect on public health and safety.

Line Management Responsibility for Safety/Clear Roles and Responsibilities

The following are examples of concerns SP-43 has identified in this area:

- There is reluctance to activate the JIC.
- The JIC organization is developed without offsite coordination or input.
- A DOE/NNSA official does not attend news conferences.

Identification of Safety Standards and Requirements

SP-43 has found that EPI personnel sometimes lack ready access to the information/tools they need in order to perform their duties. Examples include:

- Following the decision that the JIC is operational, there is no effective, coordinated procedure to ensure a smooth turnover of information flow and responsibility from the site EOC to the JIC.
- Reference materials for use by news conference teams, telephone teams, and the media coordinator are unavailable in procedures or other sources at the JIC. Materials should include:
  - Site fact sheets
  - Site and area maps
  - Hazardous material details.
- Adequate media work space and telephone equipment are not available at the JIC.
- Memoranda of agreement between individuals or organizations that are responsible for supplying the media and/or JIC facility do not include the required level of detail, such as roles, responsibilities, authorities, and provisions for providing and maintaining equipment in support of the EPI program.
- Public meetings and associated logistics and supplies are not included in the plan.
- Performance deficiencies identified during drills, exercises, performance tests, and assessments are not corrected by site public affairs offices.
- Adequate 24-hour staffing is not provided consistent with the nature, severity, duration, and public and media perception of the event.

Data Collection Activities

Document reviews, facility walkdowns, and interviews with management and technical staff (including interviews with DOE/NNSA field element personnel responsible for the administration of the emergency management program) are key methods of data collection for this subtopic.

Document Review

A. Review the site emergency plan and EPI plans and implementing procedures to determine whether they:

- Define the EPI roles and responsibilities from the time off-normal conditions are initially discovered until the emergency is terminated.
- Provide an adequate level of detail to permit the following staff to perform their functions under stress of an emergency:
  - Incident commander and staff
  - Emergency director and staff
  - EPI staff assigned to the EOC
  - JIC manager and EPI staff
  - Individuals who coordinate information with local, state, and/or Federal officials (e.g., Government Relations personnel)

  - Individuals who provide emergency information to on- and offsite workers and their families (e.g., Human Resources)
  - Authorized derivative classifier
  - Senior DOE/NNSA official.

  (Note: If procedures do not exist, determine who is responsible for these roles during interviews.)

- Support issuing a meaningful, *initial* news release within the first hour of an emergency and before the JIC is declared operational. (The procedures should include a pre-approved, formatted initial news release.)

- Provide clear guidelines and procedural steps to the incident commander or emergency director (including interim) concerning release of information during the initial and ongoing emergency response.

B. Review the site EPI plan and implementing procedures to determine:

- How site workers are informed of emergency response plans, response capabilities, and planned protective actions.

- How onsite workers, both within the immediate vicinity of the emergency and at other locales on site, are provided timely emergency information. (Verify that it is clearly documented in the plan and procedures.)

- How EPI is distributed to the public.

- How *initial* information regarding an onsite emergency is communicated to offsite officials (local, state, and tribal).

- Whether the public education plan is ongoing and current. (Note: The public education plan should be coordinated and integrated with local, state, and tribal governments and outside interested parties. The program should include regular meetings, routine correspondence, and the provision of current materials to ensure that the content is up to date, accurate, and in compliance with site and local emergency plans.)

- Whether points of contact and media listings are up to date.

- Whether the plan provides annual updates to area media for the purpose of acquainting them with the site, management personnel, emergency plans, and points of contact.

- The role of the site within the local emergency planning committee.

- The process used to provide effective *internal* information flow within the JIC. (This process includes accumulation of all raw data – emergency details, rumors, media questions, tour requests, etc. Raw data is then coordinated and converted into approved information and distributed throughout the JIC system. The process should include coordination between and among decision-makers, news writers, media briefing area, media monitoring, community and government affairs, telephone banks, and information/ administrative support.)

- Whether the JIC, when needed, will be immediately available, equipped, and maintained to accommodate JIC EPI cadre, local/state/tribal/Federal officials, and the media.

- Whether provisions are in the plan for procurement of supplies, equipment, and communications (telephone service; television and radio broadcast equipment; copying, faxing, and audio-visual equipment; and maps and displays). (Note: alternative arrangements should also be in place.)

- Whether security provisions are adequate and a process has been developed to readily identify media within the JIC (the plan should provide for security into and around the JIC).

C. Review the plan and implementing procedures to determine whether they provide for:

- An initial news conference within an hour of the JIC being declared operational
- Ongoing, periodic news conferences – preferably hourly, or upon significant change in emergency conditions
- A pre-briefing of all spokespersons, including discussion of such topics as:
  - Who addresses onsite issues (current emergency situation, emergency response activities, consequence assessment, technical questions, and historical information) during a news conference?
  - Who addresses offsite issues (emergency response activities, protective actions, and health issues) during a news conference?
  - Who addresses onsite and offsite recovery issues during a news conference?
- Proper arrangement of tables, podium, microphones, and organizational signs
- Name tags for spokespersons
- Availability of the appropriate visual aids – emergency conditions emergency classifications, impacted areas, emergency planning areas, and protective actions.

(News conferences serve as the "face of the response" and should be organized and professionally managed.)

D. Review the site and offsite plans and implementing procedures to determine whether site, local, tribal, and state EPI processes and interfaces are coordinated and integrated. (The development of the JIC roles and responsibilities, and authorities for JIC operations, should be coordinated with offsite public information officials before an emergency occurs.)

E. Review the plan and implementing procedures to determine the adequacy of the EPI process for low-severity events where public interest may be high, but emergency severity does not warrant activation of the EOC or the JIC.

F. Review the plan and implementing procedures to determine who is responsible for:

- Activating the JIC (in coordination with local and state officials)
- Deciding the level of activation
- Inviting the offsite officials to participate
- Coordinating the effort
- Declaring the JIC operational and identifying the turnover process for changing the information distribution flow from the site to the JIC. The plan and procedures should clearly detail (1) prerequisites and responsibility for determining whether the JIC is operational, (2) the turnover process, and (3) notification of the turnover to the public and media.

G. Review the plan and implementing procedures to evaluate the approval process for the *initial* and *ensuing* EPI releases (news releases, updates, media advisories, etc.). Determine whether the process is clearly delineated in the plan and precisely detailed in the procedures. Determine whether the process includes identification and assignment of responsibility for:

- Proactive procurement of information from the scene and other members of the ERO
- Development of information, including news releases
- Review by a classifier
- Review by legal, as appropriate
- Coordination, review, and approval by local, state, and tribal officials, as applicable
- Involvement/review/approval by the DOE field office
- Review/approval by Headquarters, as applicable
- Delivery of information to the public; site workers and their families; local, state, and tribal public information officials; and the media.

H. Review the plan and implementing procedures to determine whether there are provisions for:

- Coordinating and controlling news media access to the JIC and site
- Developing and distributing accurate, candid, and timely news releases, fact sheets, and internal employee communications
- Providing regular (periodic) and critical, developing (breaking) news conferences
- Identifying, correcting, and controlling rumors and incorrect information.

I. Determine who is specified as the "primary voice" during an emergency and how each emergency information source (on-scene, site EOC, local EOC) coordinates information with the "primary voice" in the JIC.

J. Review the 24-hour staffing levels and determine whether they are adequate and consistent with the nature, severity, and duration of potential emergencies, and public and media perception of an event.

K. Review the implementing procedures to ensure that 24-hour media points of contacts are available and current. Provisions for media contacts should include local media and state media (print, radio, and television), and the method for providing information to remote media (national).

L. Review the memorandum of agreement with the appropriate organization detailing the provisioning and availability of the facility. For events identified in the EPHA where the primary JIC may become uninhabitable, determine that an alternate JIC is identified and detailed in procedures.

M. Review the plan and implementing procedures to determine whether the plan clearly identifies the rumor control process and the procedures precisely detail how to detect, correct, and control rumors and misinformation. The process should include:

- How rumors are identified – telephone banks, media, news conferences, review of media articles, media monitoring
- The information flow used to relay identified rumors to the JIC decision-makers
- The information flow used by JIC decision-makers to validate the facts
- The information flow to prepare and distribute the correction to telephone banks, media, and the public
- Documentation of all rumors.

N. Review procedures to ensure that the public and media telephone banks have procedures that include reference information regarding the site,

the emergency planning areas, emergency classifications, and history of the site and emergency preparedness. (All information and maps should be available and current.)

O. Review implementing procedures to ensure that the JIC has a formal documentation system in place that logs *all* information received and distributed, including significant decisions, such as event classification, protective actions, raw data, rumors, media requests, and all released information. Areas recorded should include:

- JIC manager/decision area
- Information flow manager
- Telephone banks
- Media relations manager
- Government and community relations.

(Note: Staff should be procedurally required to keep a personal chronological log. Original documents and documentation should be kept in a chronological file.)

P. Review public education materials to determine whether they include the following:

- An alert and notification description – how the public will be alerted and notified of an emergency, including use of sirens and emergency broadcast system/emergency alert system
- Descriptions of the emergency planning areas/zones
- Public actions to be taken in the event of an emergency
- Protective action descriptions
- Evacuation routes
- Provisions and facilities available for use during the emergency
- Points of contact for additional information
- Transient population information.

Interviews

Caution – In performing the following activity, coordinate with the site emergency planning coordinator to set up interviews with offsite EPI officials. Remember that offsite officials/plans *are not being evaluated* and are only providing input regarding the effectiveness and coordination of the onsite EPI program.

Q. Interview the onsite contractor and DOE/NNSA public information personnel, EPI trainer, emergency preparedness coordination lead, and DOE field office public affairs manager. Ideally, interview or speak with one or two representatives of the offsite organizations identified in the offsite plan. From the interview, determine:

- Whether the understanding of the EPI cadre member is consistent with the plan and procedures
- Whether the EPI plan contains all the relevant processes and procedures cited in the emergency management plan
- Whether the ERO emergency director understands the importance of establishing credibility by providing timely and accurate facts to the public, as well as the pitfalls of public/media speculation
- The effectiveness of the relationship between the incident command/on-scene coordinator/emergency director and EPI role (e.g., is there an understanding of the EPI issues?)
- How the EPI is first notified and activated
- Whether there is a possibility for on-scene media coverage. If there is a possibility, describe the information distribution and control between on-scene media and the EOC/JIC

- How information is obtained from the ERO
- How each type of EPI document is processed during an emergency:
  - News releases
  - Fact sheets
  - Media advisories
  - Updates
  - Informational inserts for media kits
- How information regarding onsite incident control and response activities and offsite response actions and implementation of protective actions are coordinated in the JIC
- The process for issuing news releases (they should be released regularly). For example, determine:
  - Whether all JIC representatives issue a *single, joint* news release. If so, what is the approval process?
  - Whether representatives issue their own respective news release. If so, what is the approval/review process of all JIC participants?
  - What actions will be taken when timeliness is imperative and there is no agreement among JIC participants regarding information to be released.
  - Whether there are provisions for transportation of film footage or approved site operations information from the site if required or requested at the JIC.
  - Whether there is a process to detect, correct, and control rumors and misinformation.
- Whether the entire cadre received initial and annual refresher training and the EPI responder's impression of the training detail and effectiveness.

R. When there is no information flow from the site, the JIC should provide informational activities for the media. Request the interviewee to describe some of these activities. These should include, but not be limited to:

- Provision of support emergency information and historical issues
- Provision of equipment descriptions and/or response methods
- Telephone interviews with technical specialists, such as consequence assessment personnel
- Individual media interviews with individual JIC participants.

Facility Walkdown

S. Walkdown the JIC to determine whether the overall space within the facility is adequate for JIC operations, offsite EPI officials, and the media. The number in the JIC cadre will vary depending on the severity and duration of the emergency. Estimate a cadre of between 25 and 50. Assume a minimum of 100 media plus equipment (trucks, dishes, electrical requirements) for a significant event. Space for activities and equipment such as the following should be provided:

- Security
- Media registration and badging
- Written materials, such as fact sheets and media kits
- Posting of all news releases
- Media room outfitted with telephones
- Information regarding tours of the scene
- News conference room

- Decision area for JIC manager, all spokespersons, and technical advisor to discuss and plan information flow and distribution

- Government and community relations coordination; adequate space must be available for offsite officials (local, state, tribal, Federal)

- News writers

- Media monitoring (including rumor control)

- Administrative support area, including photocopying, faxing, filing, status boards, logistical support for communications, equipment, and supply support.

T. Walkdown EPI-related facilities (site EOC, onsite media center, JIC) to be used during an emergency to determine whether:

- Staff space allocation, maps, equipment lists, and layouts are as depicted in the emergency plan, EPI plan, and implementing procedures.

- Equipment and supplies to support JIC operations are available, such as:

  – Computers that are compatible (JIC to EOC, local EOCs, state EOC)

  – Equipment for photocopying and faxing news releases, fact sheets, and maps

  – Communications equipment for telephones, outlets, telephone teams, media use, media monitoring

  – Audiovisual equipment

  – Status boards in work areas

  – Provisions for alternate equipment and supplies.

Performance Test

(Note: The following provides specific types of focused performance tests that may be beneficial for evaluating this specific area. General guidance on performing these tests is contained in SP-43's Emergency Management Limited Scope Performance Test Inspector's Guide.

U. The inspector should develop a limited-scope performance test/drill scenario that will activate and demonstrate the fundamental plan bases and processes if an exercise is not otherwise scheduled during the evaluation period. Limited-scope performance test objectives should include, but not be limited to:

- Procurement of information from the emergency director/incident commander to the senior public information official in the EOC and/or the JIC

- Classification review of that information

- Full approval process demonstrated from EOC through distribution at JIC

- Organization and coordination of JIC teams demonstrating the roles and responsibilities, including:

  – JIC manager
  – DOE/NNSA spokesperson
  – State public information official
  – Local public information officials
  – Public and media telephone bank
  – News writer
  – News conference organization
  – Media monitoring
  – Information flow process

- Identification and correction of rumors and misinformation, and distribution of corrections.

When developing the scenario, provide *ongoing contingency messages* to challenge the EPI cadre knowledge and keep the information flow requirements at the expected high level. Effective messages will result in the expected cadre performance. Observe and evaluate the capability of the EPI cadre to provide accurate, candid, and timely information to workers, the public, and the news media.

If state and local participation is not available, it is *necessary* to provide appropriate contingency messages reflecting actions that take the place of their roles and responsibilities.

Data Analysis and Ratings

The results of the data collection effort may indicate areas where the EPI element of the emergency management program does not meet DOE order requirements, EMG Volume VI criteria, EMG guidance, or other best management practices. The impact of any deficiency on the site's emergency response capability must be considered in evaluating and rating this program element.

Chapter 3 of this inspectors guide provides general guidance in analyzing the data and rating program elements.

Potential Impacts on Other Program Elements

Analysis of the EPI program may identify impacts to/from other emergency management program elements. Examples of the relationship between the EPI program and other program elements are:

Hazards surveys and EPHA(s). EPI activities and the number of EPI staff required to respond to an emergency is a function of the emergencies analyzed in the EPHA.

Categorization/classification. EPI activities and the number of EPI staff required to respond effectively to an emergency will vary in part with the nature, severity (emergency category and class), and duration of the emergency.

Protective actions and re-entry. The EPI organization and the JIC are established as the single authoritative source of information regarding the event response, protective actions implemented on site and recommended to offsite authorities, and long-term implications.

Notification and communications. Prompt and accurate notifications are essential to the operation of the EPI program and provide the means for a facility to coordinate the timely exchange of information to other organizations. This coordination is critical to prevent dissemination of confusing, conflicting, and erroneous information during emergencies. A timely, reliable, and accurate communications system is essential for notifications to the JIC.

ERO. The EPI program provides the means for the ERO to coordinate the timely exchange of information among representatives from DOE/NNSA and other organizations. This coordination is critical to prevent dissemination of confusing, conflicting, and erroneous information.

Section 2I

READINESS ASSURANCE

Contents

General Information

In accordance with DOE Order 151.1, every DOE/NNSA site or facility must establish a readiness assurance program to ensure that the stated emergency capabilities are sufficient to execute the emergency plan. The readiness assurance program encompasses the site or facility, the cognizant field element, and responsible Headquarters line management. It includes the policies, plans, procedures, and processes by which the site/facility assures its abilities to execute the emergency plan and DOE/NNSA implements its responsibilities for oversight of the site or facility program. This section provides guidance for inspectors reviewing this aspect of the emergency management program. In particular, this section provides guidance for the review of:

1) Appraisal and assessment programs

2) Evaluations

3) ERAPs

4) DOE/NNSA oversight.

While this section discusses the role of DOE/NNSA personnel in providing line management oversight of the emergency management program, it does not address the integration of DOE/NNSA personnel into the ERO or the development and conduct of exercises, which are addressed in other sections.

Relevant Site Documents

The following is a list of site documents that the inspector may choose to review before or during performance of the onsite data collection.

- **Site/facility emergency management plan** – Sections of the site emergency management plan address: follow-up from exercises; conduct and follow-up from inspections, assessments, and evaluations; and the preparation, review, and approval of the ERAP. These topics are typically discussed in the Training, Drills, and Exercises and Administrative sections of the plan and typically provide an overview of the topics, references to the implementing procedures, and descriptions of the roles and responsibilities.

  The site/facility emergency management plan may also address the roles and responsibilities and the processes that are implemented to prepare, review, revise, and approve important emergency planning documents, such as the hazards surveys and EPHA (including the EPZ). While these subtopics are covered elsewhere in this guide, review of these documents is an important part of DOE/NNSA oversight of the site/facility program.

- **Site/facility emergency plan implementing and administrative procedures –** These procedures provide the detailed instructions for implementing the required actions of the plan. Procedures governing the planning, conduct, and follow-up from exercises are generally available. Procedures governing the planning, scheduling, and conduct of assessments, development of corrective action plans, and tracking and closure of corrective actions may be included in the emergency management procedures, though they are often contained in the site's administrative procedures.

- **Site/facility administrative procedures** – Sites often have overarching procedures, developed as part of the quality assurance and management oversight programs, which describe the assessment and self-assessment programs and the corrective action programs. Assessments of the emergency management program are typically conducted as one of the functional area assessments that are performed under these programs.

- **DOE/NNSA site office emergency plan (if applicable) –** Sections of the DOE/NNSA site office emergency management plan address roles and responsibilities of site office personnel for the implementation of the overall emergency management program, including readiness assurance activities. The plan should include a discussion of the roles and responsibilities for the overall management of the site/facility program, including review and approval of planning documents; conduct and follow-up from exercises, inspections, and assessments (either internal or external); corrective action tracking and implementation; and preparation, review, and approval of the ERAP.

- **DOE/NNSA site office procedures** – The site office should have detailed procedures that describe the processes utilized in meeting their oversight and program management responsibilities. Available procedures may contain instructions governing the review and approval of site/facility planning documents, conduct of oversight activities, and development of the ERAP. The site may also have procedures governing the roles and responsibilities and the processes used to develop and manage performance measures.

- **Exercise reports, including "no notice" exercises** – These documents describe the planning, conduct, evaluation, and follow-up activities for site/facility exercises, and should include findings and corrective actions associated with the evaluation of the exercise.

- **ERAP** – This planning document highlights many aspects of the program, including significant changes to the program, assessment schedules, evaluation results and status, performance measures, and program goals, milestones, and objectives.

- **Evaluation and assessment reports** – These reports contain details of both the internal (independent or self-administered) and external evaluations and assessments that have been performed. The reports of interest include those pertaining not only to the site/facility but also to the DOE/NNSA site office.

- **Corrective action plans** – These plans may delineate the root cause analysis and actions designed to address findings (and perhaps observations) from exercises and internal or external evaluations and assessments. Of particular interest is follow-up for the corrective actions from previous Independent Oversight inspections.

- **Action item tracking reports –** These database reports detail the status of corrective actions, including whether the action is open or closed, expected completion dates, and verification or validation activities. It is useful to obtain the report for a period of 18 to 24 months in order to observe trends in the processes for completing and closing the action items.

Common Deficiencies/Potential Concerns

This section identifies areas where concerns or deficiencies have been identified in previous inspections. These are grouped by the ISM guiding principles or core functions that are most applicable. By reviewing this information before gathering data, inspectors can be aware of these deficiencies and concerns during interviews, walkdowns, and other data gathering activities. However, the inspector should not simply focus his/her evaluation on whether these deficiencies exist at the site being evaluated, but rather should consider all aspects of this emergency management program element (including strengths and weaknesses).

Competence Commensurate with Responsibilities

At some sites and offices, personnel responsible for the management and oversight of the emergency management program do not have experience or training commensurate with the breadth and depth of the program. In addition, personnel may not obtain adequate support services. These weaknesses are reflected in the planning and response documents, particularly the technical adequacy of the hazards surveys and EPHA. Some specific proficiency problems that may be observed include:

- Technical document reviews are not performed in a timely or rigorous manner, resulting in planning document weaknesses.
- Personnel, whose training and experience provide insufficient knowledge of the standards and criteria for satisfactory performance, conduct unchallenging site/facility and DOE/NNSA emergency assessments.

Balanced Priorities

An observed weakness at some sites is that the ERAP is prepared without analysis or comment on the impact of funding and/or personnel levels on the ability of the emergency management program to meet its stated emergency response capabilities.

Provide Feedback and Continuous Improvement

At several sites/facilities and DOE/NNSA site offices, oversight and assessment activities were not being performed as required by site/facility or DOE/NNSA policies and procedures. Weaknesses observed include:

- Insufficient numbers of assessments to cover the required functional areas scheduled over the allotted time period.
- Scheduled assessments not performed.
- Corrective actions for identified deficiencies not implemented or not implemented in a timely fashion.
- Inattention to the self-assessment program.
- Lack of integration of the assessment and oversight programs to achieve the desired degree of feedback.
- Insufficient numbers of DOE/NNSA oversight activities scheduled and/or performed.
- Insufficient management attention to feedback and improvement activities.

Data Collection Activities

The data collection activities for this subtopic center around document reviews and interviews. Document reviews of the key procedures and output documents discussed above are conducted both before and during the site visit. It is advantageous to review the plan and implementing procedures prior to the data collection visit in order to be prepared for the record reviews and interviews. Interviews with management and technical staff from both the site/facility and DOE/NNSA are conducted to verify their understanding of the roles and responsibilities for readiness assurance, as well as their perception of the program's status. Additionally, interviews are conducted with responsible Headquarters personnel to determine the breadth of their involvement in the oversight activities at the site/facility.

Document Review

A. Review the site/facility emergency plan and implementing procedures governing assessment.

- Determine the roles and responsibilities for assessment activities at the site/facility, including management, independent, and self-assessments.
- Review the implementing procedure(s) for the conduct of assessments at the site/facility. The review should include the procedures and processes for:
  - Scheduling and integrating external and internal oversight and self-assessment activities
  - Conducting management, independent, and self-assessments
  - Establishing objective assessment criteria
  - Performing the assessment
  - Assessing the severity of identified weaknesses
  - Preparing and reviewing assessment reports
  - Following up on findings and observations.
- Review the previous and current schedules for planned site/facility assessments and compare them to the available reports of completed assessments.
- Review the completed assessment reports and identify the:
  - Use of objective assessment criteria and objective evidence of performance
  - Completion of the activities specified in the assessment schedule
  - Findings and observations
  - Follow-up activities.

B. Review the DOE/NNSA site office emergency plan (if applicable) and implementing procedures governing oversight and assessment activities.

- Examine DOE/NNSA site office roles and responsibilities for the conduct of oversight and assessment activities of the site/facility. The review should include the procedures and processes for:
  - Integrating external and internal assessments, including the site/facility self-assessments, into the overall assessment and oversight schedule
  - Establishing objective assessment criteria
  - Performing assessments

  - Assessing the severity of identified weaknesses
  - Preparing and reviewing assessment reports
  - Following up on findings and observations.

- Review the schedules for previous and current assessments of the site/facility and compare them to the available reports of completed assessments.
- Review the completed oversight and assessment reports and identify:
  - Use of objective assessment criteria and objective evidence of performance
  - Completion of the activities specified in the assessment schedule
  - Findings and observations
  - Follow-up activities.

C. Review the DOE/NNSA site office emergency plan and implementing procedures for conduct of self-assessments.

- Determine DOE/NNSA site office roles and responsibilities for internal self-assessment activities. The review should include the procedures and processes for:
  - Conducting management, independent, and self-assessments
  - Integrating external and internal assessments
  - Establishing objective assessment criteria
  - Performing the assessment
  - Assessing the severity of identified weaknesses
  - Preparing and reviewing assessment reports
  - Following up on findings and observations.
- Review the schedules for previous and planned assessments and compare them to the available reports of completed assessments.
- Review the completed internal assessment reports and identify:
  - Use of objective assessment criteria and objective evidence of performance
  - Completion of the activities specified in the assessment schedule
  - Findings and observations
  - Follow-up activities.

D. Review the DOE/NNSA Headquarters office processes and procedures to determine:

- DOE/NNSA cognizant Headquarters office involvement in oversight and evaluation of the site/facility emergency preparedness program, including:
  - Participation in site/facility exercises
  - Review and/or approval of site planning documents
  - Involvement in establishing policy for the site/facility program
  - Use of the ERAP in management oversight and budget deliberations.
- DOE/NNSA cognizant Headquarters office roles and responsibilities for oversight and assessment activities. The review should include the procedures and processes for:

  - Conducting assessments of the site/facility and DOE/NNSA site office
  - Using objective assessment criteria
  - Following up on findings and observations.

E. Review the site/facility processes and procedures for the planning and conduct of exercises.

- Review the roles and responsibilities of DOE/NNSA personnel for participation in the planning, execution, and follow-up of the exercises.
- Review the procedures and processes used to:
  - Establish objective evaluation criteria
  - Perform the evaluation, including role, responsibilities, and training for exercise evaluators
  - Conduct follow-up and critiques of the exercise
  - Assess the severity of identified weaknesses and determine those weaknesses that require follow-up
  - Prepare and review the exercise reports
  - Follow up on findings and observations.

F. Review both the site/facility and DOE/NNSA site office processes and procedures for the preparation of the ERAP.

- Examine the roles and responsibilities of site/facility and DOE/NNSA personnel for the preparation, review, approval, and submittal of the ERAP.
  - Review the interactions in establishing program performance measures and milestones.
  - Verify that roles and responsibilities meet the established requirements.

G. Review both the site/facility and DOE/NNSA site office processes and procedures for the use and preparation of performance measures.

- Examine the roles and responsibilities of site/facility and DOE/NNSA personnel for the preparation, review, approval, submittal, and tracking of performance measures.
  - Review the interactions in establishing program performance measures and milestones.
  - Verify that roles and responsibilities meet the established requirements.
  - Review the processes and procedures used to track and evaluate performance.
- Review documentation of the outcome and evaluation of activities related to the performance measures.

H. Review both the site/facility and DOE/NNSA site office processes and procedures governing corrective actions.

- Verify that procedures establish clear roles and responsibilities for:
  - Use and conduct of root cause analysis
  - Determination of corrective actions to address findings and/or observations
  - Establishment of overall management responsibility, as well as responsibility for implementation of the corrective action
  - Assignment of a schedule for corrective actions, including start and finish dates
  - Verification of the effectiveness of corrective actions.

- Review the DOE/NNSA site office processes and procedures for interaction and oversight of the site/facility corrective action process.

I. Review the process and procedure(s) governing the management of the corrective action tracking system(s), both for the site/facility and DOE/NNSA.

- Examine the processes and procedures for:
  - Establishing roles and responsibilities for issues management, including overall management responsibility
  - Periodically reviewing and reporting corrective action status, including follow-up mechanisms for overdue actions
  - Managing changes to the schedule and action items
  - Verifying and validating completed actions.
- Review the DOE/NNSA site office processes and procedures for verifying, validating, and closing out corrective actions.

J. Review the DOE/NNSA Headquarters office processes and procedures for verifying, validating, and closing out corrective actions, particularly for findings from the previous Independent Oversight inspection.

K. Review reports of the status of corrective actions.

- Examine the site/facility performance in overall corrective action implementation, including:
  - Meeting established schedules
  - Revising schedules, when appropriate
  - Executing the corrective action plan
  - Establishing reasonable evidence of closure
  - Completing verification and validation activities.
- Examine evidence of DOE/NNSA site office involvement in the corrective action process and overall implementation of the corrective action procedures, including:
  - Periodic reviews of action plan status
  - Review and approval of corrective action revisions, when appropriate
  - Verification and validation of corrective action closeout, when appropriate.

Interviews

L. Interview the site/facility emergency management coordinator.

- Discuss the implementation of the site/facility self-assessment program, including:
  - Roles and responsibilities
  - Overall strategy and approach to meeting the requirements
  - Scheduling issues, including integration with other assessments and inclusion of all the emergency management functional areas
  - Performance issues, including the choice and use of objective criteria and training of assessment personnel
  - Interactions with DOE/NNSA site office personnel in conjunction with assessment activities.

- Discuss the implementation of the site/facility exercise program in relation to feedback and improvement (readiness assurance). Include such topics as:
  - Roles and responsibilities
  - Methods of exercise evaluation utilized
  - Exercise critique processes
  - Identification and selection of findings and follow-up items
  - Entry of follow-up items into the corrective action tracking system
  - Involvement of DOE/NNSA Headquarters and site office personnel in exercise evaluation and follow-up activities.
- Discuss the processes and procedures utilized for preparing, reviewing, and approving the ERAP, including:
  - Roles and responsibilities of both site/facility personnel and DOE/NNSA personnel
  - Overall process and approach used to prepare the ERAP
  - Perception of usefulness
  - Use of the ERAP in planning for budgets and human resources
  - Interactions with DOE/NNSA site office personnel during preparation and approval.
- Discuss the processes and procedures used for preparing and approving performance measures, including:
  - Roles and responsibilities of site/facility and DOE/NNSA personnel for preparing, reviewing, approving, and submitting performance measures
  - Interactions in establishing program performance measures and milestones
  - Verification that perceived roles and responsibilities meet the established requirements
  - Processes for reviewing and evaluating performance against the performance measures.
- Discuss the processes and procedures utilized for preparing, reviewing, and approving the emergency planning documents, such as the hazards summaries and EPHA(s), including:
  - Roles and responsibilities of both site/facility personnel and DOE/NNSA personnel
  - Interactions with DOE/NNSA site office personnel in the review and approval process.

M. Interview the DOE/NNSA site office emergency management coordinator.

- Discuss the implementation of the site/facility oversight and assessment program, including:
  - Roles and responsibilities
  - Overall strategy and approach to meeting the requirements
  - Scheduling issues, including integration with other assessments and inclusion of all the emergency management functional areas
  - Performance issues, such as the choice and use of objective criteria and the training of assessment personnel
  - Interactions with DOE/NNSA Headquarters office personnel in conjunction with assessment activities.

- Discuss the implementation of the DOE/NNSA site office self-assessment program, including:
  - Roles and responsibilities
  - Overall strategy and approach to meeting the requirements
  - Scheduling issues, including integration with other assessments and inclusion of all the emergency management functional areas
  - Performance issues, including the choice and use of objective criteria and training of assessment personnel
  - Interactions with DOE/NNSA Headquarters office personnel in conjunction with assessment activities.
- Discuss the implementation of the site/facility exercise program in relation to feedback and improvement (readiness assurance). Include such topics as:
  - Roles and responsibilities
  - Methods of exercise evaluation utilized
  - Exercise critique processes
  - Identification and selection of findings and follow-up items
  - Entry of follow-up items into the corrective action tracking system
  - Involvement of DOE/NNSA Headquarters and site office personnel in exercise evaluation and follow-up activities.
- Discuss the processes and procedures utilized for preparing, reviewing, and approving the ERAP, such as:
  - Roles and responsibilities of both site/facility personnel and DOE/NNSA personnel
  - Overall process and approach used to prepare the ERAP
  - Perception of usefulness
  - Use of the ERAP in planning for budgets and human resources
  - Interactions with DOE/NNSA site office personnel in conjunction with assessment activities.
- Discuss the processes and procedures used for preparing and approving performance measures, including:
  - Roles and responsibilities of site/facility and DOE/NNSA personnel for the preparation, review, approval and submittal of performance measures
  - Interactions used to establish program performance measures and milestones
  - The perception of roles and responsibilities, and whether it meets the established requirements
  - The processes for review and evaluation of performance against the performance measures
  - The effectiveness of the performance measures in achieving the desired goals.
- Discuss the processes and procedures utilized for preparing, reviewing, and approving the emergency planning documents, such as the hazards summaries and EPHA(s). Topics may include:
  - Roles and responsibilities of both site/facility personnel and DOE/NNSA personnel

  - Availability and utilization of qualified personnel to perform the required reviews
  - Interactions with DOE/NNSA Headquarters and other support personnel in the review and approval process.

N. Interview the DOE/NNSA Headquarters office personnel responsible for the site/facility.

- Discuss the implementation of the site/facility oversight and assessment program, including:
  - Roles and responsibilities
  - Overall strategy and approach to meeting the requirements
  - Scheduling issues, including integration with other assessments and inclusion of all the emergency management functional areas
  - Involvement in oversight, assessment, and exercise evaluation activities
  - Review and approval processes for site/facility emergency management documents
  - Processes and procedures for receiving, reviewing, and incorporating ERAP inputs into the Headquarters reports.

Data Analysis and Ratings

The results of the data collection effort may indicate areas where the readiness assurance element of the emergency management program does not meet DOE order requirements, guidance in the EMG, or other best management practices. The impact of any deficiency on the site's emergency response capability must be considered in evaluating and rating this program element.

Chapter 3 of this inspectors guide provides general guidance in analyzing the data and rating program elements.

Potential Impacts on Other Program Elements

Analysis of the readiness assurance program may identify impacts to/from other emergency management program elements. Examples of the relationship between the readiness assurance program and other program elements are:

Feedback and improvement programs. Weaknesses in the site/facility and/or DOE/NNSA feedback and improvement programs, such as not performing assessments, conducting inadequate assessments, failure to implement corrective actions, or failure to verify effectiveness of corrective actions, can result in uncorrected weaknesses in any of the emergency management program functional areas.

Planning documents. Readiness assurance activities involving DOE/NNSA oversight of the emergency management program include review and/or approval of emergency management planning documents, such as the hazards surveys, EPHA(s), and the EPZ. Weaknesses in the site/facility program that are not identified and corrected by the oversight process can result in weaknesses in the overall planning function.

Exercises. Weaknesses in the follow-up and corrective action processes may lead to continuing, uncorrected weaknesses in Training, Drills, and Exercise programs.

Performance measures. Effective use and management of performance measures can result in overall emergency management program improvements, which may affect any or all of the emergency management functional elements.

Section 3

ANALYZING DATA AND INTERPRETING RESULTS

Contents

General Information

This section provides guidelines to help inspectors analyze data and interpret the results of data collection. The guidelines include information on the analysis process, including factors to consider while conducting an analysis. Information is also included on the significance of potential deficiencies, as well as suggestions for additional activities when deficiencies are identified. After completing each activity, inspectors can refer to this section for assistance in analyzing data and interpreting results and for determining whether additional activities are needed to gather the information necessary to accurately evaluate the system. When analyzing the data collected on a particular aspect of the site emergency management program, it is important to consider both the individual elements of the emergency management program and the program as a whole. In other words, the presence of significant weaknesses in a single area of an emergency management program element does not necessarily mean that the entire emergency management program is ineffective. However, a number of relatively insignificant systemic deficiencies can collectively degrade the overall effectiveness of the emergency management program. This is why integration among program element inspection teams is so important. It provides a look at the "big picture" within the framework of the site mission when determining whether the overall emergency management program is effective.

Analyzing Data

Data review consists of sorting out and logically grouping all validated data collected for each program element during each phase of the inspection (remembering that data is collected during the planning process as well as the conduct phase). Although the inspection team is generally aware of most of the data, not all team members will be familiar with all data collected. Therefore, it is important for the inspection team to review data at the end of each day to begin to develop a comprehensive picture of how effectively the emergency management program meets requirements. This can be best accomplished while preparing for the nightly inspection team meeting. In this way individual inspectors of the emergency management program can come together to discuss each validated data point, begin the process of analysis, and identify the impact as it may exist at that point in time (recognizing that additional data may eliminate, mitigate, or increase the impact of a particular concern). Generally, it is helpful to arrange the data according to positive or negative features. This will aid in clearly identifying strengths, weaknesses, and positive or negative trends. Proper organization and thorough review of all inspection data are essential to analysis and report preparation.

Interpreting Results

The process for analyzing results begins with the first document to be reviewed, briefing received, or person interviewed during planning. It is not completed until the final inspection report is disseminated. By recognizing this concept early in the inspection process, the inspection team can enhance the completeness and usefulness of its analysis. The information collected for each of the emergency management program elements is reviewed to determine whether the overall emergency management program complies with the requirements in DOE orders.

In addition to mere compliance, the analysis process involves the team members' critical consideration of all inspection results, particularly identified strengths and weaknesses or deficiencies, framed within the parameters of the site mission. Analysis should lead to a logical, supportable conclusion regarding how well the emergency management program is meeting the required standards and satisfying the intent of DOE/NNSA requirements. A workable approach is to first analyze each program element individually. The program element inspection tools (Sections 2A through 2H) provide guidance to assist in this evaluation. The results can then be integrated to determine the effects of the program elements on each other and, finally, the overall status of the program.

As mentioned before, it is important to weigh the significance of a weakness or deficiency in light of the entire system. If there are no deficiencies, or those identified do not impact the rating, the analysis is relatively simple. In this event, the analysis is a summary of the salient inspection results supporting the conclusion that emergency management program needs are being met. If compensatory systems or measures were considered in arriving at the conclusion, they should be discussed in sufficient detail to clearly establish why they counterbalance the identified deficiencies. If there are negative findings, weaknesses, deficiencies, or standards that are not fully met, the analysis must consider the significance and impact of these factors. The deficiencies must be analyzed both individually and collectively, then balanced against any strengths or mitigating factors to determine their overall impact on the site emergency management program's ability to meet DOE/NNSA requirements and site mission objectives. Other considerations include:

- Whether the deficiency is isolated or systemic
- Whether the operations office or contractor management previously knew of the deficiency and, if so, what action was taken
- The importance or significance of the standard affected by the deficiency
- Mitigating factors, such as the effectiveness of other emergency management program elements, that could compensate for the deficiency
- The deficiency's actual or potential effect on the ability of the site to protect workers and the public in the event of an emergency.

Ratings

SP-43 assigns ratings to the supporting elements of a facility's emergency management program. The conclusions reached through analysis of inspection results lead to the assignment of ratings. The teams are responsible for assigning the ratings; however, Independent Oversight has established a quality control process to ensure that the assigned ratings are supported by the analysis and conclusions drawn by the team. The rating process involves the critical consideration of all evaluation results, particularly identified strengths and weaknesses.

Independent Oversight uses three rating categories: Effective Performance, Needs Improvement, and Significant Weakness, which are also depicted by the colors green, yellow, and red, respectively. The SP-43 rating system is described in more detail in Section 5 of the Emergency Management Oversight Appraisal Process Guide.

Findings

Inspection findings are the primary means of identifying those elements of the emergency management program that are having a significant negative impact on the effectiveness of the overall program. The inspection team is expected to exercise judgment in determining findings, omitting minor and non-systemic items, and limiting formal findings to items of significance. Where several findings address specific aspects of a requirement, the inspection team should determine whether a single rollup finding should be reported addressing that requirement. It is more important that the finding identify the specific nature of the deficiencies, and the finding should be clear whether the deficiency is specific to a location at the site or to a specific system.

Program elements that are rated as "Needs Improvement" or "Significant Weakness" would typically have one or more findings associated with them. However, even an area rated as "Effective Performance" may have a finding if there is a deficiency in that area that has a significant negative impact on the program element or on the emergency management program as a whole.

Consideration of Integrated Safety Management Concepts

As discussed in Section 1, DOE/NNSA uses an ISM approach to systematically integrate safety into management and work practices at all levels so that missions are accomplished while protecting the public, the workers, and the environment. The ISM concept provides a useful diagnostic framework for analyzing the causes of identified deficiencies. For example, inspectors may find that a required action is not being completed. Upon further investigation, the inspectors may determine that the reason is that there has not been a clear designation of responsibility for completing the required action. This situation may indicate a weakness related to line management responsibilities. In such cases, the inspectors would cite the deficient condition (i.e., the failure to complete the required action) as the finding and reference the requirement. In the discussion and opportunities for improvement, however, the inspectors may choose to discuss the general problem with assignment of responsibilities as a contributing factor.

As part of the analysis process, SP-43 inspectors should review the results (both positive aspects and weaknesses/findings) of the review of the emergency management program in the context of the ISM concept. Using this diagnostic process, inspectors may determine that a number of weaknesses at a site or particular facility may have a common contributing factor that relates to one or more of the management principles. For example, a problem in EPHA maintenance for a particular facility could indicate that line management had not fully accepted its responsibility for emergency management and had not established and communicated expectations to the workforce and held personnel accountable for performance. In such cases, the analysis/conclusions section of the emergency management program inspection report could discuss the weaknesses in management systems as a contributing factor or root cause of identified deficiencies.

This page is intentionally left blank.

APPENDIX A

REFERENCES

APPENDIX A

REFERENCES

10 CFR 835, *Occupational Radiation Protection*

American Industrial Hygiene Association, *Emergency Response Planning Guidelines* and *Workplace Environmental Exposure Level Guidelines Handbook*

DOE Order 151.1C, *Comprehensive Emergency Management* (November 2005)

DOE Order 231.1A, *Environment, Safety and Health Reporting* (June 2004)

DOE Policy 450.4, *Safety Management System Policy* (October 1996)

DOE Guide 151.1(X), *Emergency Management Guide* (August 1997)

SP-43 *Emergency Management Limited Scope Performance Test Inspectors Guide* (August 2005)

Office of Independent Oversight and Performance Assurance Appraisal Process Protocols (January 2002)

Office of Independent Oversight Emergency Management Oversight Appraisal Process Guide (November 2005)

Secretary of Energy Directive, *Notification and Reporting Procedures for Emergency and Other Significant Events* (August 27, 1997)

2004 North American Emergency Response Guidebook

DOE Notice 153.2, *Connectivity to National Atmospheric Release Advisory Center* (August 2003)

This page is intentionally left blank.